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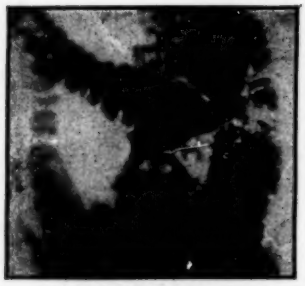

Chronic colitis, dilatation of the catarrhal right colon, the whole viscus in irritation as shown by the excessive peristalses throughout. Fermentative type of toxemia present.

From "Diseases of the Digestive System," by Anthony Bassler, M.D., F.A.C.P. Published by F.A. Davis Co., Philadelphia.

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Medical Times

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Extending the Health Span and Life After Forty*

EUGENE LYMAN FISK, M.D.

MEDICAL DIRECTOR, LIFE EXTENSION INSTITUTE,

New York

It is worth while to extend human life after forty—or at any other age? Of course, this depends to a considerable degree upon whose life one proposes to extend.

If we accept the verdict of most philosophers and intellectuals, ancient and modern, there is some doubt about it. The pessimistic view of life is the rule rather than the exception; witness Euripides' "not to be born is best, and next, to die as soon as possible." Life is discussed by such writers as an enigmatic affliction rather than a divine dispensation. Only Plato, Bruno and a few others have seen a vision of human life on a higher plane of happiness and contentment.

However, if it is not too violent a call on the imagination, we may turn from Plato to George Bernard Shaw[1] and find the latter philosopher demanding three hundred years as a reasonable time in which to complete any important life work. Judging by the way some people work in these days, a thousand years would be nearer the requirement. Perhaps in three hundred years Shaw, himself, would be able to discover America!

How much real value should we attach to the views of the pessimistic philosophers of ancient and modern times, whose diagnoses were based upon a mere consideration of symptoms and an almost complete ignorance of the underlying physical causes of human misery? When one considers that even the most learned philosophers and scientists of a few decades ago were wholly ignorant of the factors of causation in the most important diseases that afflict mankind, we may well be pardoned if we refuse to accept the dictum of these thinkers as to the limitations of human life. Many of them were poisoned both in mind and body and almost wholly ignorant of the physical basis of personality, the material vehicle of life and the mechanism of mind misery.

It was only about fifty years ago, in the age of sewer gas, that the health department of New York City was a subordinate branch of the street cleaning department, and such health inspection as there was at that time, devolved mostly upon saloonkeepers. New York was less efficiently governed in matters of sanitation than the Israelites under Moses.

There is no scientific warrant for the commonly accepted notion that the human life cycle is fixed by some immutable law, and that the miseries endured by man in the course of the ordinary life time are, on the average, fore-ordained. The basis of the health extension and life extension movement is the negation of this pessimistic philosophy, which denies the possibility of materially altering the human life cycle. After divesting our minds of scholastic medieval traditions and clinical pre-possessions, we are impressed by its brief duration in comparison with that of other lesser animals. But the mere length of the life cycle is a matter of minor consideration. We should be chiefly concerned with the condition of the average man at the successive stages of the ayerage life cycle.

The present expectation of life (1920) at birth is about 55 years,[3] probably 20 years more than it was a century ago. In 1855 it was 40 years in Massachusetts and New Hampshire.[4] The expectation of life at the age of 50 is about 21 years (21.54). This is what we mean when we say that the span of human life is about 70 years. Those who survive the perils of childhood and early adult life may look forward with reasonable confidence to living to the seventieth year or somewhat beyond.

*Read in Section on Public Health, Southern Medical Association, Sixteenth Annual Meeting, Chattanooga, Tenn., Nov. 13-16, 1922.

In 1789, the expectation of life at the age of 50 was 21.16; in 1901, it was 21.26 years; in 1910, 20.98; and in 1920, 21.54 years.[6] In Sweden, Denmark, England, Wales and Prussia the expectation has increased in all age periods in the past half century, but chiefly at the earlier ages. It is notable that in spite of the decrease in the general death rate and the gain of 20 years in the expectation of life at birth, there has actually been no material extension of life beyond middle age in this country in the past century. The Census Bureau has recently called attention to this phenomenon, confirming the thesis on this point maintained by the Life Extension Institute for some years.[6] A recent bulletin, it is true, emphasizes the remarkably low mortality for 1920, showing improved rates at all ages and for the degenerative diseases of middle life, an abrupt downward fluctuation following the high influenza and pneumonia mortality of 1918; but there is as yet no proof that this reflects an underlying favorable trend in the mortality of elderly life. It more probably reflects a weeding out of the organically impaired by influenza and pneumonia. Following the low mortality from diseases of the heart, blood vessels and kidneys in 1919 there was a sharp upward trend in 1920. Dr. Dublin has called attention to the low mortality obtaining for several years in life insurance experience and believe we have turned the corner on the so-called degenerative maladies. But time will tell; and he rightly urges caution in interpreting present figures. What we must bear in mind is that these madadies were sharply on the increase up to 1918 and that there has been no consistent, continuous downward trend in the past decade, but an abrupt and remarkable drop immediately following the epidemic. Already there is noted a sharp upward trend.

Likewise, Dr. Dublin reports an increase in the death rate at the ages of 45-64 of 12.3 per cent in 1922 as compared to 1921, largely due to an increase in the rate for the organic maladies (21 per cent).

Notwithstanding our low general death rate, the expectation of life in most civilized countries is greater at birth than it is in this country and still greater at middle life (as shown in the following charts derived from the United States Life Tables just issued) :[7]

How much of this period of 70 years is passed in a condition of sound health? There is abundant evidence to show that after the age of 30 the average individual has certain physical limitations which were not present in earlier life. He may be able to live out another 40 years of fairly active life, but each decade brings its physical handicaps and restrictions and before two-thirds of the life cycle has elapsed, we find the average civilized individual a semi-invalid, if we judge him by reasonably high standards of sound health and physical endurance. It is enough to say that at 40 the death rate is nearly three times what it is at 20, and that the morbidity rate increases in consistent ratio; at the age of 20 it is 4.68 per 1000; at the age of 50, 12.76; and at 60, 25 per 1000.[18]

As proof of the non-fixity of the life cycle, we may point to experiments with lower animals, whose life cycles have been materially, indeed, profoundly, altered by scientific means.[9]

As proof of the non-fixity of the health cycle, we have the evidence gleaned from a thorough combing out of the populations of all civilized nations during the war. In these cold-blooded surveys, the degree of obvious preventable or remediable physical deficiency was made clear—this widespread searching of the human race giving testimony strictly in line with the more intensive studies made in industry and in special groups by the Life Extension Institute and other organizations and

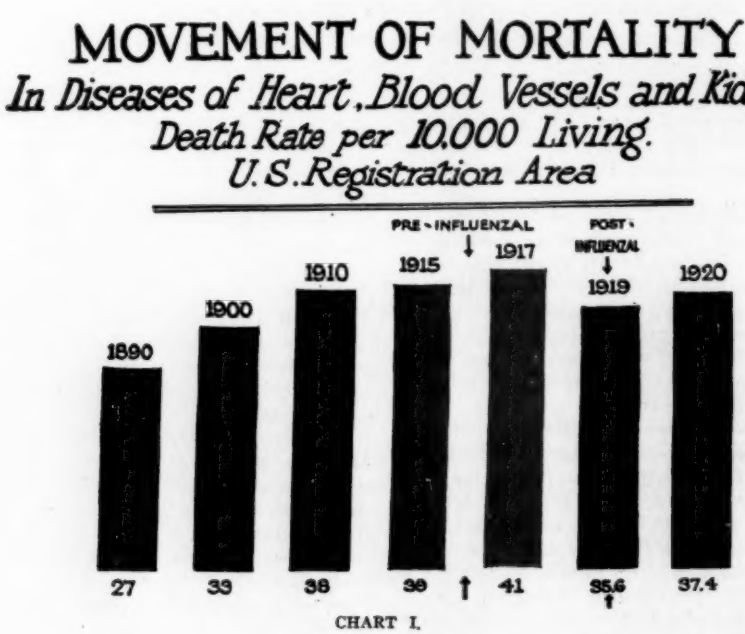

CHART I.

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You may ask, is it possible to change these conditions? Can we do more than register these human defects and deplore them? The answer is that in certain groups where improved hygiene has been at work, as in our schools and colleges, there has been shown not only

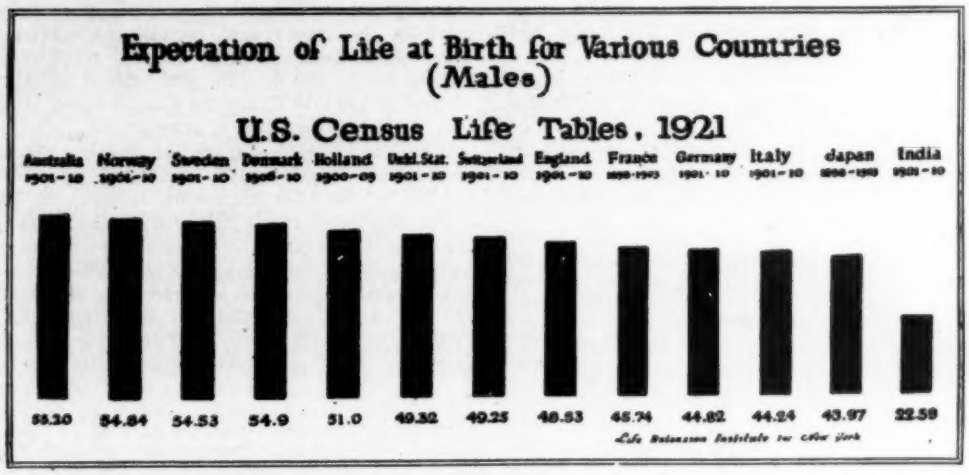

CHART II.

improvement in health but a very low death rate as compared to that of the general population, and a decided improvement in physique. A study of the mortality of graduates of Smith, Wellesley and Vassar during the past forty years showed a death rate of 3.24 per 1000,[10] or less than one-third that of the general population. Dr. McKenzie has called attention to the improved physique of the students at the University of Pennsylvania; and there have recently been issued very impressive figures at Vassar,[11] indicating an increase in height of 1½ inches, in waist measurement of 2 inches, and in weight of 6½ pounds among students of the present day as compared to those of 1890. Similar physical trends have been shown at Leland Stanford University and at Smith College. Dr. McCastline, of Columbia, has recently commented on the benefits observed from the health supervision of students. At the University of Wisconsin,[12] as the result of medical supervision supplied by the State to students, it was found that the loss of time due to bed illness had been reduced 40 to 60 per cent and that during the eight years of this medical supervision the university death rate had been reduced to only one-fourth of the general expectant rate.

More direct testimony as to the possibility of health extension and life extension has been found in the recent analysis of the mortality among policy holders examined for the Metropolitan Life Insurance Company by the Life Extension Institute for the purpose of prolonging their lives.[13] A group of about 6000 policy holders was followed from the year 1914-15, during which the individuals were examined, for a period of about five years. On a very conservative basis of actuarial computation, a reduction of 28 per cent in the mortality was shown. The most striking fact, however, was the reduction of 67 per cent in the death rate among those found more or less seriously impaired. This represents the earliest work of the Life Extension Institute and not the most intensive type of work that it has since done along these lines. The people examined were scattered all over the United States and Canada. Many of these examinations were made by general practitioners new to this type of work, that is, to the ideals and standards of health examinations. It is a striking fact that the greatest reduction in mortality was in the age group 40-60, showing the opportunities in the field discussed in this paper. These results are in line with similar mortality statistics derived from a study of a group of several thousand policy holders similarly examined under

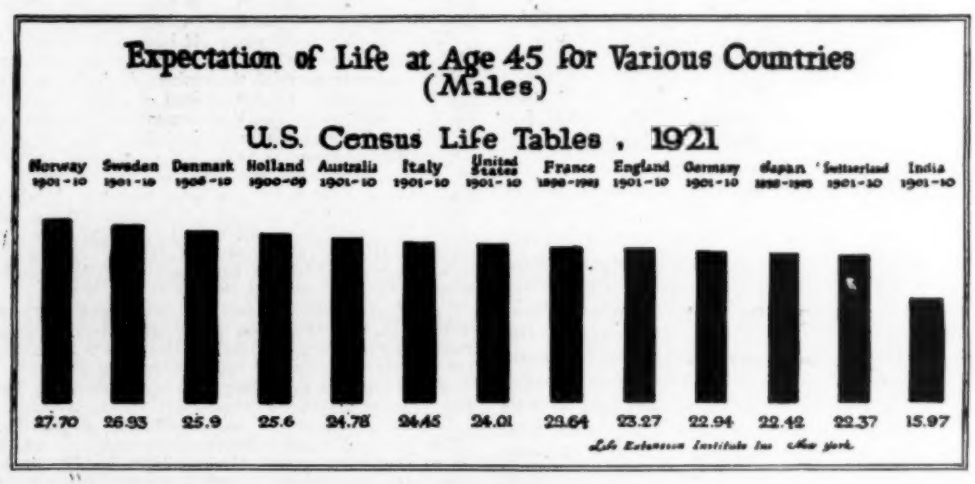

CHART III.

my supervision in the years 1909-12.[14] A reduction of 50 per cent in the death rate among those found impaired was experienced in that group.

In a report to the Hoover Committee on the Elimination of Waste in Industry[15, 17] by the Life Extension Institute these data were applied in the estimation of the economic loss from preventable diseases and ill health in industry. Assuming that the value to the state of the average human life is $5000, the annual loss was figured at $3,000,000,000.*

*DEMONSTRATION OF POSSIBLE SAVINGS FROM HEALTH SUPERVISION AND PERIODIC PHYSICAL EXAMINATION

Expected mortality per 1000 in population examined; conservative figure for average population at work	10 lives
Probable number of sub-standard or physically impaired lives per 1000 in population examined	300 lives
Expected mortality *without examination* per 300 sub-standard lives	6 lives
Probable mortality *with examination* per 300 sub-standard lives	3 lives
Mortality saving (lives per annum) in sub-standard group	3 lives
Add at least one life saved in standard group	1 life
Economic value of average life	$ 5,000
[Formula of Dublin and Whitney based on exact computation of basic factors, increment of wealth, etc. Value of 1 year of life $100 x 50 (average life-time) = $5000, economic value of average life.]	
Mortality gain to state for each 1000 examined (4 lives x $5000)	20,000
Assuming 2 people constantly ill for each death occurring in group, the saving of 4 lives means the elimination of 8 cases of chronic illness from the group, or a reduction of 8 x 365, or 2920 days of illness. At a medical nursing and extra diet cost for illness of $3.00 per day, the saving equals about	9,000
Profit to state and community per 1000 of population	$ 29,000
Applying this factor to a population of 105,000,000, which would exclude the extremely aged and infirm, who would not come under the operation of these formulae, we have the following exhibit: 105,000,000 x $29 equals about	3,045,000,000
What would be the cost of applying a system of periodic examination to the entire population? If there were thorough organization of such work the cost would not exceed $5 per individual—a total of	525,000,000
Leaving an economic balance of	$2,520,000,000
Assuming that one-third of the sub-standard cases revealed by these examinations or about 10,000,000 required medical, surgical or dental treatment at a cost of $100 per case, the cost of this repair work would aggregate	1,000,000,000
Leaving a net margin of economic gain of	$1,520,000,000

Also excess dividends in:
Health;
Happiness;
Satisfaction in living;
Prevention of pain;
Prevention of sorrow;
Prevention of discontent; and
Industrial unrest.

In the same report a number of estimates were made with regard to the prevalence of certain physical defects and disease,[16] which it would be well to consider in this discussion. These estimates were based upon intensive studies of small groups as well as the analysis of large groups in the population, as through the draft examination, morbidity surveys, etc.

A half million working people die annually.

Forty-two million gainfully employed lose 350,000,000 days from illness disabilities and non-industrial accidents annually; 28,000 die from industrial accidents.

The economic loss from the tuberculosis death rate alone is $500,000,000 annually and $26,000,000,000 for this generation, figured on the diminished longevity. At least 1,000,000 people now have tuberculosis.

Twenty-five million in the working classes have defective vision requiring correction. At least 25,000,000 have defective teeth and mouth infection; 8,000,000 have flat foot; 6,000,000 have organic diseases resulting largely from infection; 1,500,000 have venereal infection.

It will be helpful to present a close-up view of certain special groups, which will reveal more intimately the nature of the problems that confront modern medicine in assuming the newer responsibilities that are now being placed upon its shoulders for the prevention of human suffering and physical failure. Please understand that I am not claiming superior diagnostic skill for any one engaged in this work, but simply giving you facts upon which a judgment may be formed as to the strength of the system and the soundness of the principles advocated by the newer and broader preventive medicine as compared with the time-honored medical custom of waiting for people to come and inform us that they are ill—too frequently telling us exactly what is the matter with them—and ask for a remedy.

I shall first analyze a group of 100 post office employes constituting a cross section of the service, who were examined by the Life Extension Institute at the request of the former Welfare Director of the Post Office Department, Dr. Frankel. These examinations were made without charge by the Institute, simply as a scientific and public contribution. These men were put through the full individual routine at the Head Office of the Institute, including x-ray and laboratory studies. The following classification shows the condition of this group:

	No. and Per Ct.
Class 1.—No physical defects	0
Class 2.—Minor defects requiring observation or attention	0
Class 3.—Moderate defects requiring hygienic correction or minor medical, dental or surgical attention	5
Class 4.—Moderate defects requiring medical supervision as well as hygienic correction	26
Class 5.—Advanced physical impairment requiring systematic medical or surgical attention	57
Class 6.—Serious physical defects requiring immediate surgical or medical attention	12

These figures fairly reflect what we find in an average mixed group in the population engaged at work.

Such a classification, however, does not convey a sufficiently clear picture to the minds of people who have not been working in this particular field. I will read a description of certain of the serious cases and a few of those in the other classes:

CLASS VI.

Case I.—A man, 37 yaers old, complained of bronchitis and pains around the heart. He had an old history of pleurisy and x-ray signs of pleuritic thickening. Physical signs and x-ray report suggested chronic tuberculous process. The blood pressure was low (106-70), and he was 30 pounds underweight. His tonsils were moderately buried and cryptic. He had badly decayed teeth and infected gums. He had moderate arterial thickening with a slight enlargement of the heart. He used tobacco excessively, and his diet was badly adjusted. He got too little sleep and had a badly ventilated sleeping room.

Case II.—A man 42 years old had a very high blood pressure (240-150), a definite amount of albumin in the urine, numerous leucocytes, and a low specific gravity. He showed enlargement of the heart and a loud second aortic sound. He had moderate arterial thickning, some evidences of bronchitis, tonsils enlarged, buried and cryptic. His defective vision was not fully corrected. He had a nasal obstruction, flat foot, and complained of shortness of breath. He was 15 pounds overweight, and used tobacco freely. A Wassermann test was negative, but further examination and anti-luetic observation were advised.

Case III.—A man 54 years old had an elevated blood pressure (182-100), a systolic heart murmur at the apex conveyed to axilla, moderate arterial thickening, extensive mouth infection, and buried tonsils. He complained of occasional rheumatism in the back and knees. The Wassermann was negative, but further anti-luetic observation was advised.

Case IV.—A man 31 years old complained of palpitation of the heart. The heart was enlarged, and he had an apical systolic murmur. He had a low blood pressure (110-78), a marked amount of albumin, and very numerous hyaline and granular casts. His tonsils were enlarged, buried and cryptic, with cheesy masses. He had extensive tooth decay. He was 25 pounds underweight, had slight flat foot and slight double inguinal hernia.

Case V.—A man 46 years old complained of rheumatism and 'gout." He was 70 pounds overweight. His blood pressure was moderately elevated (150-106). His tonsils were enlarged, buried and cryptic. He had root abscesses of the teeth, rapid pulse and slight arteral thickening, a few cylindroids in the urine, and left inguinal hernia.

Case VI.—A man 47 years old had a high blood pressure (188-110), and was 20 pounds overweight. He had a history of severe abdominal colic. He had right inguinal hernia, a slight hydrocele, and slight anemia. Early operation was advised owing to tightening of the ring.

Case VII.—A man aged 28 had a history of fainting spells. His blood pressure was elevated (160-110), tonsils were enlarged and cryptic; and he had a spot on the right tonsil. He had several impacted molar teeth and moderate arterial thickening. A Wassermann was negative, but anti-leutic observation was advised.

Case VIII.—A man, 44, was 60 pounds overweight, had a root abscess, extensive pyorrhea, and blood pressure moderately elevated (146-90). He had moderate arterial thickening, a rapid pulse, and enlarged tonsils. The prostate gland was slightly enlarged. He had chronic nasal catarrh, used tobacco and coffee excessively. Wassermann was negative, but anti-luetic observation was advised.

Case IX.—A man of 32 had a strongly positive Wassermann test, excess of leucocytes in the urine, a root abscess, tonsils enlarged, buried and septic, and was 15 pounds overweight.

Case X.—A man of 31 in an eye examination showed a condition of acute glaucoma. A root abscess was present. This subject immediately sought treatment and operation and the condition was relieved and sight was saved.

Case XI.—A man of 37 had an organic heart murmur, and his heart was enlarged. His blood pressure was increased (160-114), and compensation was only fair. There was a trace of albumin in the urine. Lungs required further observation. He was a lightweight and had lost weight (5 ft. 8½ in., 120 lbs.). An error of vision was not corrected. He had a poor family history and used an excess of tea and coffee.

Case XII.—A man of 32 had a doubtful history of lues with a negative Wassermann. He had chronic diarrhea and enlarged and defective tonsils. Smear and culture are pending, and further gastro-intestinal observation.

Class V.

Case I.—A man of 47 was 25 pounds overweight. He had enlarged tonsils, buried and cryptic with cheesy masses. His blood pressure was slightly advanced (146-96). He complained of shortness of breath and frequent colds. He required treatment of the nose and throat, reduction of weight, and further observation of the lungs.

Case II.—A man of 35 was 30 pounds underweight, had flat foot, defective vision not corrected and acid dyspepsia. He had a history of empyema of the lungs, though no active condition was present. He had a root abscess in the jaw. He used tobacco and coffee excessively and his diet was badly balanced.

Case III.—A man of 29 had a history of being gassed. He was 10 pounds underweight. A slight enlargement of the heart was shown by x-ray. He had moderate thickening of the arteries, a root abscess in his jaw, and enlarged tonsils.

Case IV.—A man of 41 was 35 pounds underweight. He had a low blood pressure (110-70), moderate thickening of arteries, buried and cryptic tonsils, a nasal obstruction, cloudy antra and polypi in both nares, defective vision, not fully corrected, constipation, indigestion and acid stomach, used an excess of tobacco, and his diet was unbalanced.

Case V.—A man of 31 had low blood pressure (106-70), moderate thickening of the arteries, enlarged and cryptic tonsils, carious teeth, flat foot, constipation, and complained of pain in the back.

Case VI.—A man of 39 was 25 pounds underweight. He had low blood pressure (112-70), a slight heart murmur, probably functional, and occasional irregular heart action. He had a history of diabetes, but no sugar was found in the urine or the blood at our examination. He had an excess of leucocytes, numerous cylindroids, and a trace of albumin in the urine. His tonsils were enlarged, buried and cryptic, and he had two infected roots. He had marked spinal curvature, flat foot, constipation, hemorrhoids, and his cervical glands were slightly enlarged.

Case VII.—A man of 41 had double inguinal hernia, a slight tenderness over the appendix, a history of intestinal colic, constipation, marked aterial thickening, two infected roots, defective tonsils, and weak feet.

Case VIII.—A man of 62 was 15 pounds overweight, with excess girth. He showed signs of bronchitis, some shortness of breath, a slight enlargement of the prostate gland, defective vision not fully corrected, defective tonsils, and moderate arterial thickening.

Case IX.—A man of 41 was 15 pounds underweight. He had frequent coughs and colds. His tonsils were enlarged and defective, and he had two infected roots. His blood pressure was slightly advanced (142-90), he had a slight heart murmur, probably functional, moderate thickening of the arteries, a moderate varicocele, a slight spinal curvature, and he used coffee and tobacco excessively.

Case X.—A man of 22 was 20 pounds underweight. He had a low blood pressure (104-70), several infected roots, pyorrhea, buried and defective tonsils, defective vision not fully corrected, a nasal obstruction, an incipient hernia, and used an excess of coffee and tobacco.

Case XI.—A man of 23 had a marked amount of sugar in the urine, specific gravity 1030. He had a root abscess in his jaw. His tonsils were buried and cryptic. He was 15 pounds underweight, and his hemoglobin was low (73 per cent.).

Class IV.

Case I.—A man of 32 had one infected root and some pyorrhea, a rapid pulse, frequent colds, nasal obstruction, defective vision, constipation, acid dyspepsia, flat foot a slight spinal curvature, and used tobacco and coffee to excess.

Case II.—A man of 48 had carious teeth, infected gums, and a discharging sinus in the jaw. He was 20 pounds overweight, and complained of rheumatism and acid dyspepsia. He used tobacco excessively.

Case III.—A man of 26 had several infected roots, enlarged and defective tonsils, was 30 pounds overweight, had flat foot, a slight spinal curvature, acid dyspepsia, constipation, and suffered from headaches.

Case IV.—A man of 30 had a slight enlargement of the heart, moderate thickening of the arteries, was 15 pounds underweight, had buried and defective tonsils, a root abscess in the jaw, a slight varicocele, and flat foot.

Case V.—A man of 43 had defective vision not corrected, suffered from headaches, had a nasal obstruction and cloudy antra, his tonsils were enlarged and defective, and he was constipated.

Case VI.—A man of 45 had defective vision not corrected, infected gums and loose teeth, several infected roots, a nasal obstruction, cloudy antra, buried and defective tonsils, evidences of bronchitis, and frequent colds and coughs.

Class III.

Case I.—A man of 47 had defective vision, not fully corrected, slight flat foot, a slight varicocele, blood pressure very slightly advanced (140-90), slightly defective tonsils, and used tobacco excessively.

Case II.—A man of 27 had a slight nasal obstruction, slightly defective tonsils, moderate arterial thickening, constipation, slight acne on the forehead, ears obstructed by wax, and used tobacco and coffee to excsss.

Case III.—A man of 43 had a slight hydrocele of the left cord, defective vision, not fully corrected, slightly defective tonsils, slight thickening of the arteries, slightly defective hearing, decayed teeth, and some dead teeth.

Case IV.—A man of 33 had slightly defective tonsils, first degree flat foot, ears obstructed by wax, a slight nasal obstruction, and arterial thickening.

This, as I have suggested, gives us a close-up view of human life problems in a group of active workers. It is not the record of a hospital, dispensary or clinic; and that it is a fair picture of an ordinary group of workers is shown by our broad statistics derived from the examination of many other similar groups and a total experience on more than 250,000 people.

Following up this investigation at the suggestion of Postmaster-General Work, the United States Public Health Service has examined a thousand post office employes along the same lines and the findings were entirely consistent with those in the preliminary group examined by the Institute, which affords a striking demonstration of the value of such work for the whole people.

The following comparative table is of interest as showing the high ratio of impairments found in an average working group. The United States Public Health Service followed the same system of classification adopted by the Institute. There was close agreement as to the ratio of serious impairment and the total number of impairments found. The variations in distribution of the other classes may be due to some self-selection in the preliminary group examined by the Institute or to varying judgment in the application of the rating system. The important fact brought out is the high ratio of impairment that is found when the examinations are conducted from the standpoint of the periodic health examination.

COMPARISON OF THE RESULTS OF THE PHYSICAL EXAMINATION OF 985 POST OFFICE EMPLOYEES MADE BY THE U. S. PUBLIC HEALTH SERVICE WITH 100 EMPLOYEES EXAMINED BY THE LIFE EXTENSION INSTITUTE OF NEW YORK.

	Results by Classes		Rate per 1000	
	U. S. Public Health Service	Life Extension Institute	U. S. Public Health Service	Life Extension Institute
Class I*	5	0	5	0
" II	12	0	12	0
" III	258	5	262	50
" IV	336	26	341	260
" V	234	57	238	570
" VI	140	12	142	120

* For description of class, see p. ??

The study of this group makes clear the need for a thorough and critical analysis of the human body before physical breakdown or acute disease occurs: the early detection of physical defects, of infection, poisons, and the various factors which in the course of years are responsible for the tissue changes which have erroneously been ascribed to time. I group these factors as follows: heredity; infection, poisons; food deficiency; food excess; air deficiencies or defects; hormone deficiency; hormone excess; physical trauma or strain; psychic trauma or strain; physical apathy or disuse; and psychic apathy or disuse.

If, instead of emphasizing the importance of diagnosis, in the older meaning of the term, and endeavoring to put a label on each patient and classify him as having a disease entity of some kind, physicians will make a careful general survey of the life and the body searching for these factors and giving counsel as to the correction of all defects, as well as to the treatment of so-called disease and the regulation of hygiene, general practitioners of this type would soon arise all over the country and constitute the first line of contact with the public; and the first line of defense against disease and physical failure. They would not stand entirely helpless between the public and a small army of specialists. They would be able to carry their patients along to a point where it could be intelligently determined what special type of follow-up or special treatment were necessary, and their efforts would be directed less toward the mere naming of a disease or the treatment of symptoms, and more toward a discovery of the original cause of the pathology or symptomatology, the mere grouping of which has, in the past, been so satisfactory to science and too often unsatisfactory to the patient.

The chief need is to tear down the emergency ideal in medicine and set up the preventive and constructive ideal.

The importance of this systematic, mechanical, yet intensive and individualistic, examination of the human machine, and the value of this work, when properly systematized, as compared to casual medical consultation, is shown by the following instance:

An individual came to the Institute for the usual health examination. He presented no important symptoms, except severe headache, which had persisted for a year and a half almost constantly. His vision was somewhat defective, 20/50 in one and 20/70 in the other eye. He had spent a great deal of money and most of his time passing through the hands of specialists of various types. At the Institute he had a routine examination. No special examinations were made outside of the usual routine. In the course of this examination certain changes in the eye grounds (choked disc) were found which pointed toward brain tumor. He was informed of the probable conditions and urged to see an oculist, neurologist and brain surgeon. A final diagnosis of brain tumor was made. He was operated upon and a tumor the size of a lemon, an endothelioma of the cerebellum, was removed. This case was exhibited, practically restored to health, at the New York Academy of Medicine in the Section on Ophthalmology, March 21, 1922, and the fact was commented on that while he had been under the observation of a gastroenterologist in a hospital for nearly a month prior to the standard health examination at the Institute, no careful examination of the eye conditions had been made and treatment had been directed toward stomach and other conditions which were, of course, merely functional. Some one had x-rayed his neck and claimed to find a dislocated atlas; a neurologist told him he was going crazy and must keep away from doctors. In the discussion of the case the importance of an eye examination in all cases of illness was emphasized. The important lesson from this experience, however, was the fact that a routine examination of this type, without the exercise of any extraordinary diagnostic skill, only reasonable accuracy and a consistent standard routine, had developed evidence of the underlying condition.

There is no reason why a junior physician, inspired with the right ideals and trained to make a complete general survey of the body, should not be able to pick up such evidence very readily by adhering to the routine of a general bodily survey. Conditions which are so obscure and borderline that only a highly skilled specialist could analyze them, should at least be flagged in such a survey and referred for the proper specialized study. For example, in this particular case, even a careful gross test of the vision in connection with a health examination would have inevitably led to a reference of the case to an ophthalmologist and discovery of the condition of the optic disc.

It is quite evident that conditions in medical practice are faulty in so far as systematized provision for human needs is concerned. Hence we see the development of pay clinics, group clinics, and of various agencies of a like nature. I wish to make it clear, however, that the Life Extension Institute, while it bears superficial resemblance to some of these agencies, in many respects is different. It does not undertake the treatment of disease. It limits its work throughout the country to the preliminary physical survey through a staff of 8000 examiners, and while at its head office this survey is made more intensive and is frequently carried to the point of developing complete information, and the work of the general examiner is supported and standardized by specialists, the Institute does not undertake the medical supervision of these cases, but endeavors to solve the problem of the type of medical supervision and hygienic regulation that is required. More than 50 per cent of those examined by the Institute have been referred to their physicians or dentists for attention. In other words, more than 125,000 people have been referred to medical men in no way connected with the Institute for supervision and treatment, which at average professional rates would involve an expenditure of $5,000,000 to $10,000,000.

Another point to consider is the value of these periodic health surveys in solving many of the problems which are now the subject of special drives, such as tuberculosis, cancer, and venereal disease. If this work is properly organized and supporting agencies are developed, if we have prenatal care, careful examination of the pregnant women, proper periodic examination in childhood, in school life and in adult life, either through the family physician trained to do this work, the life insurance company extending it as a privilege in the interest of its business, examinations for employment or for health purposes in industry, examinations in training camps, as suggested by Surgeon-General Ireland, even cancer will feel the influence of this work. It is far

better to prevent a disease than to find a cure for it. On this subject alone some statistics may be of interest.

We have a record in the past year of 553 growths, discovered in the regular examinations of the Institute; among these growths, 22 were adjudged malignant. The follow-up of the malignant cases showed that 11 of these were operated and apparently cured and the others are under medical supervision. Seven of the malignant cases were either inoperable or so far advanced that they died after operation. Of the non-malignant cases we have a record of 31 operated successfully, with no deaths. The others are under observation.

Another point of interest is the degree of focal infection that exists. Combining all forms of focal infection, we have found it present in 85 per cent of cases examined, and in every study that has been made a much higher percentage of organic defect has been found in the groups showing definite evidence of focal infection. In root infection of the teeth I feel we are dealing with an important cause of much chronic disease and not with a passing fad.

There is much current dispute over the importance of this type of infection, but in a study of 20,000 dental series made in the x-ray laboratory of the Life Extension Institute, 63 per cent showed root infection. Ninety-four per cent on our advice took the films to their dentists. Seventy-eight per cent had extractions or treatment, or both. Sixty-three per cent of these reported improvement in symptoms or general health within six months. Even though no apparent good effect on health follows the removal of the pulpless or infected teeth, we are justified in assuming that the individual has at least been protected against future infection.

It is not strange that the process of adjustment of medical practice to these newer needs should be to some extent painful; but it is my own belief that as medicine reorganizes along these new lines, the work of the physician will be much more satisfying, more remunerative on the average, and I can see in the not distant future a fair prospect of sweeping out of existence many of the noisome quackeries and pseudo-scientific cults which thrive upon public credulity and ignorance. With the medical profession organized to make available to the public in a practical and efficient way existing scientific knowledge, with medical men busy keeping people well and guiding them in the healthful pathways of living, detecting and eradicating their minor defects, or preventing them from becoming major defects, we will have an antithesis of the present condition of affairs where men graduated in medicine are practically ordered to sit in their offices and wait until people fall ill and then knock at their doors, appealing, often vainly, for relief. Is it any wonder that angina pectoris is called the "doctor's disease?"

When these adjustments are made the young physician will serve his time in group associations, where he will divest himself of the medieval notion that he is to be free from supervision or subordination of any kind, constituting himself an individual authority, without a reasonable checking up of his performances. With his training and associations and relationships known by the community in which he lives, with various agencies such as the institute, school, college, camp, industries or insurance companies ascertaining the defects of the people, the vast numbers in the population requiring medical supervision and attention will sift through the hands of this first line of general practitioners into such scientific agencies as may be properly equipped to give service beyond the scope of the general practitioner. But the kind of service most needed, guidance in hygiene and upbuilding health methods, is within the scope of the general practitioner if he will equip himself to render it. It is usually not a function of a group or clinic unless specially organized on life extension principles, where standard methods of interpreting and measuring the significance of physical deficiencies have been developed. Medical treatment and surgery are still the distinct purpose of these clinical groups. It is all important, however, in such work to be guided by mass experience and remember that each individual is subject to the risk of his class.

When one recalls the remarkable advance in medicine during the past fifty years, the splendid work done by special workers in medical research, the enormous advance in sanitation and public health work and knowledge of the causation of disease, and then considers the heart-breaking fight of the general practitioner against terrific odds, largely because of outworn medical customs, one is impressed by the tragedy of this wealth of scientific knowledge not being brought more abundantly and efficiently to the people. There exists at present a gap between scientific medicine and the general public. It is largely filled by quacks and cults and pseudo-scientific get-well-quick fakes. To bridge this gap and throw down the gage of battle to health fakirs of all descriptions and wherever found is one of the central purposes of the health extension and life extension movement, and in this we ask the patient co-operation of all forward-looking educators and practitioners of medicine.

Summary

(1) About 20 years have been added to the expectation of life at birth in this country in the past century; about 10 years in the past two decades.

(2) Most of this gain is due to reduction in mortality under five years of age. Up to 1910, and probably up to 1917, inclusive, there was no gain in the expectation of life at the age of 50.

(3) The extremely favorable figures for 1920 may reflect an abnormal and accidental fluctuation. There has been no continuous progressive improvement throughout the decade in the diseases of middle life and old age.

(4) The greatest task and the largest opportunity in preventive medicine lies in the extension of the period of full vitality and in extending the life span beyond the age of 40.

(5) This can best be accomplished by periodic medical examination and the application of scientific methods of health building as well as disease prevention.

(6) Well tested scientific studies of groups coming under the influence of periodic health examinations show a reduction of 67 per cent in the death rate among impaired lives, the largest gains being made between the ages of 40 and 60, clearly showing the neglected field of opportunity in preventive medicine.

(7) The same principles must be followed in clinical medicine, a consideration of the patient's total needs rather than detached consideration of special emergency needs.

(8) This program does not imply the elimination of the general or family practitioner, but requires that he adjust himself to new conditions.

(9) Public health organization, National, state and city—must go forward. Group clinics, health centers, life extension centers have come to stay and will further develop. It is suicidal for clinical medicine to oppose them. But there should be harmonious co-operation among these agencies concerned with health service to the people. Clinical medicine has

(Continued on page 153)

Limitation of Flexion of the Foot Through Shortened Calf-Muscles and Its Non-Surgical Correction*

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A common interference with proper locomotion is caused by a restriction of flexion of the foot by reason of shortened calf-muscles. As in other parts of the body, so also in the foot, motions are dependent on two sets of muscles: one, that by contracting actively performs them, and the other, the opponent group, that by relaxing, permits them to be carried out by the former.

Flexion of the foot on the leg is carried out by the anterior muscle group of the lower leg and is opposed by the extensors of the foot, the posterior group of the lower leg, the calf-muscles. Unimpaired in power, the flexors of the foot can lift the foot, to an angle of 75 or 70 degrees with the leg, its normal upward range of motion, assuming of course that the opposing muscle group, the extensors, are also in their natural state and can relax sufficiently to permit this motion.

But if for some reason these latter muscles have become shorter than normal, then even if they do relax when the anterior muscles attempt to flex the foot, when the foot is brought forward in walking or when the leg is flexed on the foot at another period in this act, they cannot relax sufficiently to enable the foot to reach an angle of 75 degrees or less with the leg that it needs for walking barefooted or in a shoe without a heel.

It is difficult for one who does not specialize in the correction of foot ailments to even approximate the number of people, especially women, who are suffering from the effects of a limitation of flexion of the foot created by shortened calf-muscles. Fully 20 per cent of all female patients that apply for treatment to the orthopædic department of the Foot Clinics of New York are so afflicted. In our private work the percentage is even higher, and this experience is shared no doubt by most orthopædists and podiatrists.

The condition is most prevalent among women who have worn high-heeled shoes constantly for several years, but it is not confined to them. We find it as the result of a prolonged rest in bed necessitated by an illness or following an operation, where the foot was allowed to drop into extension and remained in this position for several months. It is a common accompaniment of the weakfoot and the acquired flatfoot. We find it as a result of muscle trauma and also following poliomyelitis where the anterior muscle group controlling the foot became paralysed. But cases resulting from the two latter causes do not interest us very much as they form only a very small percentage of the whole and when found are usually so extreme that surgical aid is needed in their correction. We are interested in this discussion solely in the huge number of cases in which a disturbance to the proper function of the foot is created by a moderate shortening of the calf-muscles which can be corrected by mechanical means.

The common subjective symptoms of a restricted flexion of the foot or of the leg on the foot are fatigue, pain in front of the lower leg, cramps in the calves, and pain in the sole of the foot. The former two produced by the effort to lift the foot against opposition and the latter through strain in the calf-muscles and on the foot in the midtarsal region when the leg is bent on the foot in walking. The condition constitutes quite an interesting problem which is being solved in various ways.

As long as the patient wears a fairly high-heeled shoe, the shortened calf-muscles give no symptoms as the heel of the shoe accommodates the shortening and an angle of 75 degrees or less can be reached between the base of support, the sole and heel of the shoe, and the leg, without strain when the patient bends the leg on the foot in walking. But if the patient for some reason is obliged to wear a low-heeled shoe, then the defect becomes noticeable.

A good many orthopædic surgeons prefer a tenotomy of the tendo Achillis as the quickest way to overcome the difficulty. This is undoubtedly the correct procedure in a pronounced shortening, but there are any number of cases for which this method is advocated that could be treated equally as effectively in other ways and without any greater loss of time than it takes to recuperate from a tenotomy. The patient in most instances would prefer almost any method to an operation which he considers serious and perhaps doubtful of outcome, an assumption not justified by facts.

The moderate shortening of the calf-muscles, as said before, can be corrected without the use of the knife. A stretching of the calf-muscles under an anaesthetic followed by a fixation of the foot in a plaster of Paris cast in the position of flexion, for a few weeks, is perhaps the quickest remedy, but even this method cannot be pursued when we have to deal with patients who cannot spare the time necessary for this treatment, the working class, who at best can only think of themselves after their day's work is done.

A method employed with success for nearly ten years in the Foot Clinics of New York is the following: The patient's calves are baked for about one-half an hour at a temperature varying from 250 to 300 deg. Fahr. This is followed by massage (deep kneading) for about fifteen minutes, and then the foot is forcibly flexed on the leg several times to the limit of tolerance after having first been inverted. This treatment given every second day, followed by appropriate exercises systematically carried out by the patient at his home, will correct a moderate shortening in from five weeks to two months without any appreciable discomfort to the patient and without obliging him to abstain from work. The heat and massage are necessary to relax the muscles and to loosen the muscle fibres; without these aids very little can be accomplished. It is necessary to invert the foot before forcibly flexing it in order to "lock" the midtarsal joint, to prevent a flexion of the forefoot on the rear part of the foot.

Numerous devices have been designed by men interested in orthopædic work to substitute mechanical means for manual stretching of the calf-muscles. Heidenhain, Hoffa, and others have used elastic bands connected to adhesive bandages and plaster of Paris casts to stretch shortened calf-muscles in cases of talipes equinus. Their method is now rarely if ever used and in moderate shortenings it would not be indicated because the patient while under treatment would have to abstain from work.

Strohmeyer's complicated apparatus with its screws and cogwheel to be worn continuously, is not applicable in our cases for the same reason no matter how efficacious it might be, nor can we readily use the Scarpa shoe or its modification by Little on our patients who have to be on their feet during the day.

*Part of a chapter of advance pages from "Foot Orthopaedics" in course of preparation.

The best known and most widely used apparatus in this country for periodic stretching is "Shaffer's shoe" or "Shaffer's apparatus." (Fig. 1). It is an instrument consisting of two side bars that are held together at their upper end by a calfband. To the bars at their lower end is fastened a foot-piece which can be raised or lowered anteriorly by a worm-screw operating on one of the joints by which foot-piece and bars are connected.

FIG. 1.—The Shaffer's apparatus, a valuable instrument for the stretching of the calf-muscles in "Shaffer's foot" and for the reduction of the excessively high arch in these cases. The method of forcing the rising heel down in the stretching process is most ingenious.

The foot-piece itself is divided transversely and its anterior part is pushed forward by means of a rachet-key to pull the heel down by tightening a strap over the back of the heel when the latter has risen after the foot has been forcibly flexed. This latter arrangement is truly ideal and an exhibition of Dr. Shaffer's genius to solve a most difficult problem.

The Shaffer apparatus was, as we understand it, designed primarily to overcome the restriction of flexion found in the so-called Shaffer's foot, contracted foot, or nondeforming clubfoot, a condition in which the foot is highly arched by a contraction of its plantar structures and where it cannot be brought to an angle of less than 90 degrees with the leg by reason of shortened calf-muscles. For the correction of this foot defect the apparatus filled a long-felt want as through it not only the calf-muscles could be stretched, but also the plantar structures, and in this way not only the restriction of flexion could be reduced but also the excessively high longitudinal arch, since in a foot, forcibly flexed with its sole not inverted a certain amount of flexion will occur at the midtarsal joint.

But the greater number of cases in which we are called upon to correct a limitation of flexion are not those found in connection with the contracted foot but those induced mainly by the wearing of the high-heeled shoe in feet not excessively arched. For these we did not find the Shaffer's apparatus entirely suitable for the following reasons:

I. If a foot is forcibly flexed as in the Shaffer's shoe without being inverted first, a strain on the midtarsal joints cannot be avoided, since the calf-muscles to be stretched are much more powerful than the joint connections and the tissues beneath; they will "give" before the calf-muscles yield, particularly since they are in most instances already strained.

II. In the Shaffer's shoe, a rigid force is applied that will instinctively provoke opposition on the part of the patient and make stretching very difficult, because the operator not only has to overcome the resistance offered by the shortened muscles, but also that offered by the patient against the stretching.

It was with the intention of overcoming these unpleasant features in an otherwise excellent apparatus that the one to be described was constructed, and which has proved successful. We do not claim originality for it, as it embodies ideas that are not new.

It is new in so far as it combines two well-known features usually separately employed, i.e., inversion of the foot before forcible flexion as in manual stretching, and the elastic pull instead of rigid force as used in the treatment of talipes equinus in connection with adhesive plaster and plaster of Paris dressings in the devices of Heidenhain, Hoffa and others. The reason for the necessity of inverting the foot before flexion is attempted has already been mentioned. The substitution of an elastic pull for rigid force as an improvement needs explanation.

As stated before, when force is applied to stretch the calf-muscles and this force is harsh or rigid as is the case in the Shaffer's shoe and in manual forcible flexion, the patient will instinctively offer opposition to it by contracting these muscles and he will thus increase the existing resistance a great deal.

An elastic tension or pull on the other hand being mild and yielding, puts the patient at his ease, and being constant, tires the muscles of the calf so that they will give without much opposition. It is a principle that works somewhat on the same order as if a patient were anaesthetized and opposition to the stretching were removed through unconsciousness. Here, by eliminating the thought of being hurt, we get a muscle relaxation that is otherwise only obtained under an anaesthetic.

The apparatus is simple. It consists of two side-bars which are connected at their upper end by a semicircular steel calfband, covered with leather. At the lower end, they are bent downward at nearly right angles and are separated from each other by a transverse bar, that serves as a base or floor support when the apparatus is used.

Between the side-bars, near the point where they are bent downward, is fastened a foot plate, that turns on a longitudinal axis so that it can be tilted laterally to any desired angle. A ratchet-wheel and a spring assure fixation of the attitude needed. Thus either a right or left foot can be forced into inversion and held there without difficulty.

The frame holding the foot plate permits it to move in a dorso-plantar direction on a transverse axis.

Steel springs, fastened to a bar above the foot plate on one end and to the inner and outer sides of the steel calfband, furnish the power for forcible flexion. The pull of these springs can be increased or decreased by a lever, worked by a screw back of the foot plate. A dial on one side of the apparatus registers the degrees of flexion obtained at each sitting. A control screw assures a gradual "pull" and protects the patient against injury. This screw is loosened gradually as the stretching proceeds; it is tightened when the patient complains of discomfort and loosened again when the patient feels easy (Fig. 2). The apparatus is used as follows. The patient's foot is fastened to the sole plate by two straps. It is next inverted as far as tolerable, by the ratchet provided for this purpose, and then the control screw is released which brings the springs into action.

The stretching at each sitting should not exceed 20 minutes and should be carried out daily if possible. The same apparatus can also be used to stretch the spastic extensor longus digitorum and the peroneal muscles in cases of spastic or rigid weakfoot, a condition quite commonly encountered in the adolescent. (Fig. 3).

As in the Shaffer's shoe or other stretching apparatus, so also in the last described, results are best when the stretching is preceded by deep massage of the calf-muscles or by baking and massage.

Whether stretching of the calf-muscles is attempted manually or by the use of apparatus, it is essential that the work of the operator be "followed up" by the patient at home; only then can one expect the maximum of results. Especially is this true if the patient can only come for treatment twice or three times per week.

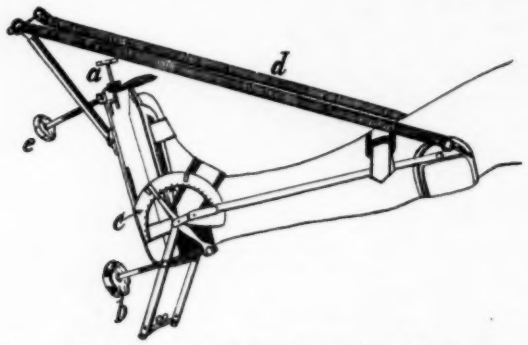

FIG. 2.—Author's apparatus in use for stretching the calf-muscles.
a. Ratchet, for forcing the foot into inversion to lock the mid-tarsal joint.
b. Screw, to control action of the springs.
c. Dial, registering degrees of flexion.
d. Springs, that supply force for stretching.
e. Screw, to increase pull of the springs.

The patient's work consists in doing certain exercises regularly twice a day, morning and night a stated number of times that are fixed by the practitioner and not left to the discretion of the patient.

From the various exercises for the stretching of the calf-muscles developed in course of time, we have found three to be especially useful and easily carried out.

Exercise No. 1.

The patient seated in a chair, rests the foot on another chair or stool placed in front of him so that the leg is in extension.

He then inverts the foot (Fig. 4a) and while in inversion flexes it gradually on the leg as far as possible. He retains this position until he has slowly counted 10 and then "gives an extra pull" with the intention to still further flex the foot (Fig. 4b). This exercise if properly carried out is quite exhausting and for this reason should not be done more than five times with each foot twice a day at the start. It should be increased gradually to 10 and 15 times twice a day.

This exercise serves a double purpose. It stretches the calf-muscles and strengthens the flexors and inverters of the foot, and for this reason it is especially valuable in cases where a weak-foot exists in addition to shortened calf-muscles.

Exercise No. 2.

The patient, standing behind a chair and about three feet away from it, places his hands on the back of the chair. He next inverts his feet so that he stands on their outer border. (Fig. 4c). Then he slowly bends forward with his body held rigid so that the only motion possible occurs at the ankle joint (Fig. 4d). Alternately he bends forward and backward, stretching the calf-muscles and relaxing them in turn.

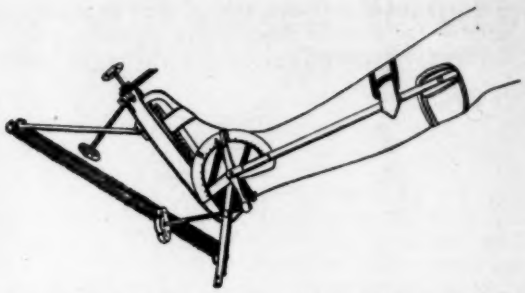

FIG. 3.—Author's apparatus employed to stretch the spastic extensor longus digitorum and the peroneal muscles in cases of spastic or rigid weakfeet.

The farther he bends forward, the greater the pull on the calf-muscles and the greater the resulting stretching. This exercise is not as fatiguing as the first, as in it the entire body acts as the long arm of a lever. In consequence it can be carried out a greater number of times than the first, say ten times at the start and gradually increasing to 25 or 30 times twice a day.

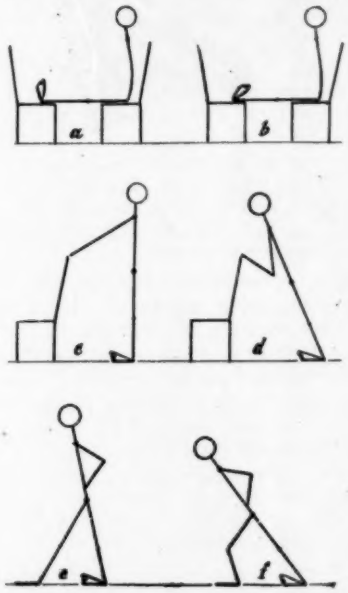

FIG. 4.—Exercises by the patient to follow up stretching of the calf-muscles.
a. and b.—The foot is inverted and then flexed while the leg is held in extension. This exercise serves a double purpose: It strengthens the invertors and stretches the calf-muscles. It is therefore of special value in those cases in which a weakfoot coexists.
c. and d.—The patient standing behind a chair with his feet inverted leans forward as far as possible while the legs are held straight.
e. and f.—For the stretching of the calf-muscles of the right leg, the patient inverts the right foot. He steps forward on the left foot and bends the left knee as far as possible while holding the right leg straight.

Exercise No. 3

Assuming that we wish to stretch the calf-muscles of the right leg, the patient standing with his feet parallel to each other, is asked to take a step forward with his left foot and to invert the right foot to its limit, so that all weight on this foot is born on its outer side (Fig. 4e). He is then directed to bend his left knee and to lean forward as far as possible without bending at the hips. The right knee is kept extended (Fig. 4f). Alternately

(Concluded on page 154)

A Young Practitioner's Version of Medical Ethics*

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It will fall to the lot of each and every member of this club (if he has not already done so) to render his version of one of the branches of Medical Science. Really I feel highly honored that your scientific Committee entrusted me with "The Science of Doing Right." Let us understand at the onset that I claim nothing original in my article on Medical Ethics, but I will endeavor to *recall* to your mind some of the well known ethical principles and their application in every day practise of medicine. Furthermore let us consider how these principles effect each and every one of us; how they are not only neglected but in many instances openly and *defiantly* abused by some of our honorable profession.

How many doctors especially those, who have a large practise, and consider themselves more or less independent ever stop to consider that there is such a thing as Medical Ethics, and if so do they really know what medical ethics means? 'Tis sad, but nevertheless true, if you were to ask a large majority of medical practioners for a logical definition of medical ethics, no doubt your answers would be just as negative as they would be to the vague questions:—such as "How far is up? or "How much money is a lot of nickels?" We do know however that medical ethics was practised in ancient times and no doubt in the very near future the medical profession of to-day will profit from ancient Egypt by some revelation from the "Tomb of Old King Tut." They are finding everything:—why is it not reasonable to expect a Tablet on medical ethics? Ancient literature does contain "the Oath of Hypocrates," a transcript of which many of us possess, either hidden in some far corner of our desks, or else decorated with dust it lies underneath some old library volumes. Here it remains perhaps until "Son Johnnie" finishes *his* course in medicine. Then Father presents him with a copy of that Sacred Oath, and at the same time Father explains how these lines have guided him throughout, all his years of practise. As a matter of fact; Father may not be familiar with a single line of same! But nevertheless this is the way medical ethics is generally handed down from time to time, that is to teach, that such a thing exists but not practised. However going back to the history of Medical Ethics it was not until 1807, that Dr. Thomas Percival, an English physician, introduced by a small book, an admirable code of ethics which was the identical code adopted by the American Medical Association in 1847. In 1903 at the fifty-fourth annual meeting of this association at New Orleans, the old code was rescinded and in its place, was substituted a series of well founded rules of conduct which *they named* "Principles of Medical Ethics." These rules were again revised and brought still nearer perfection at the sixty-third annual meeting at Atlantic City June 4, 1912. So we now have as the basis of medical ethics these principles adopted June 4, 1912, and again *slightly amended* in St. Louis May 23, 1922. After all these revisions we have the principles of that *great* and *extensive* study of medical ethics, briefly and inadequately defined in a small pamphlet issued by the American Medical Association five by three inches in size, and containing only twenty-three pages.

To properly understand our ethical duties, as physicians, it is essential that we know precisely what medical ethics means. Ethics is derived from a Greek word meaning character. It is the science of right conduct, or a system of rules regulating conduct. *In other words* "Medical Ethics" may be defined as "The rules or principles governing the conduct of professional men." However, even in spite of this clearly defined subject, some older practitioners will tell you that medical ethics is meant only for the younger men; claiming it is *they only* who violate these principles, when beginning the practice of medicine and in their anxious desire to secure a practise they turn out to be a Dr. Grabber pouncing upon the patients of Dr's. A, B & C, like a hungry wolf leaping into a sheep fold. I disagree with these older men and where they point out *this* as the principal failing, and often times the only one of which the younger men are guilty. I want to go on record as stating that the younger man of to-day has not only a keener idea of ethical principles, but, thank God, he puts them into practise. I also want to take this occasion to assert for the younger practitioner that the most harmful breaches of professional etiquette, are *those* practised by the older jealous men, against the striving young man in medicine.

In the application of ethical principles, let us consider them in four classes following in the order of their importance.

First. The duty of a physician to his patients.

Second. His duty to his fellow practioners and the profession at large.

Third. His duty to the public and hospitals.

Fourth. A physician's duty to himself.

In my opinion by far the most important of these four classes and embraced in our Oath, as Doctors of medicine, is "The duties of a physician to his patients." Bear in mind in rendering our services *we* are not obliged to assume charge of any case, of any kind, or to engage to attend a female in confinement, or to bind ourselves in any way against our wish; but, after doing so, we are *morally*, and *legally*, bound to attend, and to attend fully and faithfully even though it may be a "charity or bad pay" patient. At the same time remember you also have a perfect right to withdraw from any case, by giving proper notice. Especially important are the obstetrical cases, wherein you can take chance calls of any kind, at your option, but all your regular engagements must be kept day or night, for they are binding contracts. Closely in league with this is our duty to our patients, during the seashore season of the year and week-end holidays.

The more prevalent time however, that patients are liable to be neglected, is daily between midnight and 8 a. m., when all nature including the doctor is at rest. During your summer vacations and week-end trips it remains your duty to not only leave in your place a competent substitute, but to also inform present active patients, as well as expectant confinement cases of your absence. And furthermore to inform them that you have made arrangements with a certain physician for their care. In the case of night calls the older practitioner falls down again. He may send one of the younger striving practitioners, that is true, but unless this physician is able to cope with the situation; where the disease is not too complicated and of long standing; and wherein the patient's mental attitude does not require the actual presence of her physician of choice. Otherwise you are morally obligated to leave your bed and make

* Read before The Neone Medical Club March 24, 1923.

way toward the home of that person, who considers you her physician, and who also expects you as such to call in case of necessity, any time of the day or night. We oftentimes encounter, in our practise, people of various types and peculiarities, of which we must be constantly on our guard, but far more difficult than these, is the handling of patients, who either exaggerate their symptoms, or on the other hand attempt to conceal them. The various types of malingers find hundreds of reasons for *feigning sickness* and telling untruths about existing symptoms, and they find thousands of causes for exaggerating the degree of suffering or disability; especially when a few nonimportant objective symptoms are present. In your consideration of these cases bear this fact always in mind:—"The fox said he was sick, but he knew not where, so he clapped his hand to his tail and said it was there."

Never assume charge of a patient recently under the care of any other regular physician, without first ascertaining, that he has been formally notified of the change. The principle that governs all such cases is this; when a person is taken sick he is at liberty to select any physician he prefers, but after making a selection, and when the case has been taken charge of, if for any reason *whatever*, the patient wants to change, he must follow the established custom, for if there are any hard thoughts on the part of the other physician on the case or any unpleasant scenes with him, the patient and his friends should endure them, not you. While a physician should give timely notice of dangerous manifestations of a disease to the friends of the patient, at the same time he should neither minimize or exaggerate the gravity of the patient's condition. The confidences concerning individual or domestic life intrusted by a patient to a physician, or the flaws in character observed in patients during medical attendance, should never be revealed except when imperatively required by the laws of the state.

A physician's ethical duty to his patients to-day is difficult and discouraging, due to the fact that many people, believing it is such a hard thing to die, they are unwilling to resign themselves to the will of Almighty God, and drift around from one doctor's office to another, and consequently from one treatment to another. At last they go to Dr. Quack and finally to Dr. Fakir. This class of roaming patients will aid you little if any in the aquirement of a reliable practise neither will those patients, secured through secret or beneficial societies. The most desirable class is the good family business, which you can attract and hold, by a kindly endeavor to do your best for all, who apply for your professional service.

Much of one's success and professional reputation will depend upon the second class of ethical principles, that is, a physician's duties toward his fellow practitioners and physicians at large. Be especially careful of taking cases in families, which you have visited for a brother physician, unless conditions warrant or this physician requests you to do so. If on the other hand you have walked blindly or purposely into the case, you are guilty of as flat a piece of burglary as was ever committed, and the only difference between you and Jessie James is that "Jessie used a gun." At some time or other you may be urged to see a patient, whom you may discover, is being attended by a fellow physician. You may then be confronted with a request to give your opinion as to the patient's condition and treatment with an assurance that the other physician will be kept ignorant of your visit. Bear in mind that honor and duty require you as a man and gentleman to do right, in this and all similar circumstances, and any suggestion on your part, as to supplanting the former physician would not only seem like plotting for a brother's place, but such an act should be considered ungentlemanly, unchristian, and unprofessional.

Let it be your rigid rule, never to visit a patient who is under the care of a brother physician, as a medical detective either for the patient's beneficial society, with a view to ascertain whether he is malingering or for an employer friend or relative, who is auxious about his illness, or for one in fear of an impending damage suit, unless you have the distinct sanction of the attending physician.

Older men in the practice of medicine have no hesitancy in requesting service of the younger men, without any thought of compensation, and in many instances collecting compensation for themselves. I personally could never understand this, unless they consider experience is necessary for the younger man. Quite true, but experience will not pay the rent. The writer has found in attending patients during emergencies for other physicians and also while making those haunted night calls, that one is often asked, by the patient, to remain in attendance insomuch as he had started the case or did not object to going out at night. It has always been my policy to make some casual reply about returning, but with no intention of doing so, and without relating the same to the attending physician, with the result that on his visit the following morning the patient is glad to see him and has forgotten any previous anxiety, while the doctor remains unaware of the fact, that he was discharged as the family physician the night before. Let it always be your motto! to lend a helping hand to aid a surgical colleague, or any esteemed professional friend or superior, when he has cases requiring it; also unite your friendly assistance with any member of the profession, where humanity necessitates, regardless of compensation. But be careful how you lend yourself as a "Jump Jack" in the schemes of bungling practitioners, who would use you for their own benefit; and do not run around assuming half (or all) of the responsibility for these *would-be surgeons*, in their *hacking* and *hewing, cutting* and *slashing* exploits! If a doctor friend or any other professional brother is prevented from attending to his practise, due to personal illness, or illness or death in his family, it is just and proper to attend to his practise for him *without reward*. Remember *always* let brother help brother! But when you assume charge of a case for another physician, either in his absence from his professional duties or in an emergency pending his arrival, take care to do as much good, as possible for the patient, with as little harm as possible to the doctor himself.

In consultations be religiously exact in everything relating to same and above all be there at the appointed hour. Consultations should always be conducted in proper form and strictly private. Give the consultant a brief sketch of the history, before entering the sick room, hold *no discussion* before the patient; but after making the necessary examinations, retire from the room, to consult in private, out of the sight and hearing from evesdroppers. In consultations it is proper for the regular attendant to precede the consultant on entering the patient's room and to follow on leaving it. He also should act as spokesman in announcing the opinion and advice following the consultation. When a consulting physician, a specialist, or a surgeon is designated and called at your request, you should see that the payment of his fee is not neglected. Let us religiously attend emergency calls, and when summoned to acceptable cases of confinement, colic, convulsions, ac-

cident, etc. If possible lay all else aside and go immediately; then if you are too late to be of service, you will neither feel self-reproached nor be criticised for apparent neglect of duty. Remember every physician has his *successes* and also his *failures*. In cases where you may be highly successful in diagnosis, or have worked wonders in treatment after others have failed, observe a proper degree of modesty and avoid pushing your triumph so far as to wound the feeling or mortify the pride of your *less fortunate practitioners*.

To the public we owe our living and existence; to the hospitals our teaching and professional experience necessary to carry on a legitimate practice, so it behooves us to be ever-ready and active in our service to the public and public institutions. First be prompt to the minute in answering all professional correspondence, relating to public welfare, that requires an answer. Bear in mind that legal requirements are as binding in pauper and charity cases, as in any other. And ethical duties therefore should be as binding on hospital and dispensary physicians, as they are on those in private practice. On changing your status with the public, as well as the profession, that is in confining your practice, to any specialty or department of medicine, of which you have a perfect right, be sure that such an announcement is honest and professional. Signs and cards bearing the words "Practice limited, etc.," are ethical but those that read "Special attention given to, etc.," are unprofessional. Fees are something that are always being discussed by medical men:—The wisest rule in charging for your services, is to do your work well, then ask from the beginning of your career, the fees usual for conscientious, skilled attendance—neither exorbitantly high, like an extortioner, nor absurdly low. Always take great care not to promise too much, to old chronic cases, that more experienced physicians, have pronounced—incurable, annoying and troublesome; and then when penniless are handed over to you. Promise nothing! only that you will do your best for them—"He who makes no promises has none to perform." Furthermore *never guarantee anything*, except the fact that you know your duty and will perform it. And that if your patients will do their best you will do likewise, leaving the result to God.

How *many* times during the day, will one hear this question from the public:—"How is business?" It is always better to make some such ordinary answer as "Oh! I am satisfied!" Also keep your business affairs and your money matters *to yourself*. Avoid talking about bills and collections unless it be to a person, about his own bill. And even then don't waste words, if you believe him to be the unprincipled Trickster, who never intends to pay any of his debts; "Remember from a bad crow you always get a bad egg!" It is far better to courteously, but *firmly* decline, as patients, those who can but *will not* pay, without assigning them any reason, except that you are too busy, rather than argue or plot to get your fee. On medical practice there are two varieties of calls; acceptable and non-acceptable. You have a perfect right *absolutely* to decline to respond to a call or to refuse to take charge of a case, if you wish, but if you do assume the duty it constitutes a contract, in which you agree to give your best skill and services with proper attention. It is a fact *nevertheless* that some people still labor under the false impression, that physicians and surgeons are public servants, and that the law compels them to go at beck and call to anyone and everyone; willing or unwilling, pay or no pay.

On your anxiety to get your name before the public, never solicit people, either by word or otherwise; *to employ you*, for such a course would tend to repel rather than attract them, and at the same time could not fail to deprive you of the necessary confidence and esteem. *Besides* respect for yourself and the profession, makes it far better to wait until your professional acquaintance is sought. Much discussion often arises also over prescriptions among the laity:—Why they are written in Latin and why should they not be able to get a prescription re-filled, which they have paid for together with professional advice. Reasons for these are legitimate and well known to each and everyone of us, but oftentimes the question will arise:—To whom does a prescription belong? In answer, the law has decided, that first this prescription, or order, belongs to the patient; secondly that the pharmacist, after compounding same, has a right to retain it as a voucher, but has no right to refill same without your consent. This applies to all prescriptions, whether they contain opiates or not.

It remains a sacred duty to observe health conditions in your locality, in so much, as they may endanger public safety. Our duty does not rest with complaining to the individual directly concerned, but one must, "preferably in writing, make a report of same to the proper authorities. Many times it may become necessary for us to perform an autopsy to determine not only the actual cause of death (which we may already know); but also in order that result of same may clear up any suspicion, that may be instilled upon the public mind. On doing these necessary autopsies, for public charity, do same with great care and deep respect for the dead. It is said:—"That not only all civilized but even all savage nations respect the dead." And the important uses of the dead to the living is the only *justification* for human dissection."

In a physician's service to the public, there are two varieties of legitimate reputation, that a physician may acquire: First a popular or common one with the people and secondly a higher professional one with his medical brothers. But in medicine a reputation that comes easily and goes just as easily, but the best reputation to instill on the public mind, is that acquired by a display of real talent or worth.

I consider that these few remarks on professional duties to the public and hospitals would be incomplete, if I were not to make mention of that subject, which is constantly being discussed among medical men, regarding fee splitting, as practiced in hospitals. I say in hospitals, because the surgeons are the offenders in most instances, assisted however by their partners in crime, *those* degraded practitioners carrying on such a private practice. In my opinion, next to criminal abortion this is the greatest crime committed against medical ethics and any physician, who would resort to such a practice, as fee splitting, *would be* just as liable to take a commission from an undertaker.

Finally, we have the duties of a physician to himself, which after all are the basic guides of all ethical principles, upon which a professional reputation is established. Patience and delicacy should *characterize* the acts of every physician. As doctors of human beings *don't prescribe*, by just dealing out medicine, as you would however explain fully: *how* to take the medicine; *when* to take it; *how* it is supposed to act and *what* we expect it to accomplish. On so doing, don't secretly fail to *recognize* and call to your aid, three of our best friends:—*"faith, hope* and *expectation."* It is a grave mistake to let Mother-nature take her course, when she takes a bad or wrong one. You will often see *her* put a curable in his coffin, because you were called too late to direct her course or to help her in what she tried to do. But *when* you are on time be a "Dr. Dosomething";

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Boards of Health for the Mind

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New York

(Concluded from May issue.)

Here is a state of affairs even worse than that and yet not surprising considering the laxity of the laws of the time. Landlords and property owners generally, the vested interests who were making money, had sufficient influence with the legislature to prevent anything like legislation in favor of making rented places reasonably healthy. There was no legal requirement that there should be a window directly opening on the fresh air and rooms were actually rented under circumstances such that families lived in them without any direct window or airhole of any kind. In connection with these there were inevitably all sorts of other abuses. Here is an instance:

"At No. —— West 25th Street, a wretched tenement of two apartments, the rooms occupied by on family. The sitting-room is about 10 x 12 feet, and the bedroom about 5 x 12, without a single window or air hole. These rooms were occupied in the hot month of July by a colored female having pulmonary consumption, and her two children. Here she died, shortly after we made the inspection of the domicilium; *having no money nor friends, a Christian burial was denied her for four days, although the neighbors acquainted the police of the fact, and they the Health Warden.*"

A set of awful conditions existed in a series of tenament houses, the "tenant houses" of that time, called "Rag-Pickers-Row." It was named after the occupation of its dwellers. Here is what the inspectors found:

"The houses are of wood, two storied, with attic and basement. The attic rooms are used to deposit the filthy rags and bones as they are taken from the gutters and slaughterhouses. The yards are filled with dirty rags hung up to dry, sending forth their stench to all the neighborhood, and are exceedingly nauseous, operating upon me as an emetic. (This from a physician usually somewhat hardened to smells from the old time dissecting rooms. The tenants are all Germans of the lowest order, having no national nor personal pride; they are exceedingly filthy in person, and their bed clothes are as dirty as the floors they walk on; their food is of the poorest quality, and their feet and hands, and doubtless their whole bodies, are anasarcous, suffering from what they call rheumatism, but which is in reality a prostrated nervous system, the result of foul air and inadequate supply of nutritious food. They have a peculiar taste for the association of dogs and cats, there being about fifty of the former and thirty of the latter. The whole number of apartments is thirty-two, occupied by twenty-eight families. number 120 in all, 60 adults and 60 children. The yards are all small, and the sinks running over with filth."

The owners of this savory piece of property were, I believe, particularly indignant when it was suggested that they ought to see that conditions were made better in the property from which they derived rent. The owner of this and of some other particularly noisome nuisances lived out in the country themselves, the property had been acquired by an ancestor and now they were living on the income and they were represented by a lawyer. You can easily understand what a lawyer, without any law to compel him, would say to anyone interfering with the rights of his owners, or telling him what their duties were in the matter, or suggesting that they ought to spend money in improving sanitary conditions. That was entirely a matter for the tenants. If they wanted to live in this awful way, this was a free country and they could do so. The penalty of disease and death fell on themselves and they must take the responsibility. Interference with the freedom of the individual and personal rights and a setting up of sentimental standards by those who pretended to care a great deal for the poor, but were really only interested in securing places for themselves on boards and working up political influence, perhaps, you know how all this would be suggested.

The health laws were a chaos. The health wardens were not physicians but political officials. Usually the health wardenship was confered upon some corner saloon keeper. Whenever anybody talked about filthy conditions likely to breed disease in his ward he told them, in no unmeasured terms, to mind their own business, the people of his neighborhood knew how to take care of themselves. They might not be as nice about personal cleanliness as some of their fellow townsmen who lived further up in the city, but they were alright, there could be no mistake about that. He would see that there were no serious abuses.

The health wardens set themselves up as the judges of health quite as freely as a magistrate might set himself up in some other day as a judge of literature and of what was likely to do harm to the rising generation in the shape of published books and magazines and staged dramas. The good health people were told very frankly that they had an impossible ideal of health that could not at all be realized. You could not teach these ignorant foreigners to take care of their health, and since they were coming in he had to provide a place for them and they would make their own conditions. The clean collar brigade must not expect that there would be any popular sympathy for them. They were engaged in a crusade to satisfy their own feelings rather than really to do good. People must be left to themselves. This was a free country. Over and over again that was emphasized and personal liberty was proclaimed, and the tyrannous tendencies to have some people to interfere with others' rights constantly popping up.

What of the newspapers under these awful conditions. Oh, they were, as always, with the politicians. After considerable delay Mr. William Cullen Bryant of the *Evening Post* came to the assistance of those who wanted to clean up the city, but the other papers refused to notice the movement or slurred it. Many of those who owned stock in the papers were themselves also owners of rented property that would badly stand inspection, and then besides their readers did not want to be bothered with accounts of such dirty conditions. No one could be expected to read a newspapers at the breakfast table which contained accounts of filthy places of all kinds, or called attention to the dangers from them. It made people feel too uncomfortable because the feeling was that nothing could be done to prevent contagious disease, it was an inevitable accompanyment of living conditions, and it would continue to carry off its thousands every year. Then, too, too many of the readers were interested in properties and so the newspaper policy was to keep off the question of any reform of the health laws. Why should they be annoyed by things like that. After a series of epidemics in the fifties when typhus came twice and cholera once, the severest epidemic of cholera we ever had was in

1849, but there was another one in 1854 and a bad one in 1866, New York began to wake up to the necessity of cleaning house, but even then was slow about it.

I have tried to tell the story of those epidemics in a chapter in my History of Medicine in New York, but it would take a volume to do them justice and it is easy to understand how much of the history of medicine they represent since practically every disease recured over and over again and dyphtheria and smallpox and typhoid fever, to say nothing of the minor ills of the so-called ordinary children's diseases, measles and scarlet fever, and practically always in a city they were spreading.

Smallpox particularly was rampant and the disease was constantly getting into the channels of trade and being spread throughout the country from New York. Here, for instance, is an example in which Dr. Stephen Smith gives some details that would seem almost impossible only that they are substantiated by actual sworn reports:

"I hold in my hand a list of cases of small-pox found existing under circumstances which show how widespread is this disease. Bedding of a fatal case of small-pox was sold to a rag man; case in a room where candy and daily papers were sold; case on a ferry boat; woman was attending bar and acting as nurse to her husband who had small-pox; girl was making cigars while scabs were falling from her skin; seamstress was making shirts for a Broadway store, one of which was thrown over the cradle of a child sick with small-pox; tailors making soldiers' clothing (this was during the Civil War), having their children from whom the scabs were falling wrapped in the garments; a woman selling vegetables had the scabs falling from her face among the vegetables, etc., etc., etc."

In spite of the presentation of a report of this kind backed up by a majority of New York's voters legislation was very slow to come. The health matter actually had to be made a political issue. The report of the inspection which had been made by private contributions was sent to the legislature of 1865.

It was so compelling that there seemed no doubt that the legislature would act at once. It was actually promised, and though it was declared after the hearing before the joint committees of the Senate and House of Representatives that the bill would immediately pass both houses without opposition, this did not prove to be the event. The city inspectors secured delay by requesting another hearing in order to investigate the facts presented by the voluntary inspection, and a combination of politicians in the meantime was made and the bill was actually defeated. Health had to become a political war cry, and seventeen candidates for the Legislature who had voted in opposition to the bill in 1865 were defeated before the friends of sanitation could secure the adoption of their health measure.

The one thing that actually brought the up-State legislators, in spite of politics, to come around to give New York City a health authority that would enable the city to clean up was the danger to their own people from commercial intercourse with the city. Dr. Stephen Smith has emphasized this very much and deservedly, because that was the key to the solution of the matter eventually. For the impression of the up-State legislators a series of cases of small-pox and other diseases contracted because persons who had visited New York City acquired the contagion there, were included in the report. At Cooperstown twenty-six cases of small-pox were traced to a person who manifestly acquired the disease at a hotel in New York City, in the room in which a patient with the disease had recently died. A woman travelling from New York to Buffalo fell ill on the train and had to be carried from the cars of the Erie railroad to the State Line road at one of the many connections of that time. Four deaths were directly traceable to this exposure of railroad men who came in contact with the sick woman. She communicated the disease further at Columbus, Ohio, where three deaths resulted. Two men came to the city from Western New York to sell horses were attacked with small-pox some days after their return, and communicated their disease to others. A physician of Delaware county mentions the case of a merchant of that place who came to this city with his wife and went to one of our most frequented hotels. Being very much fatigued, they retired to the room provided for them, without any particular examination of it, but found in the morning that they had been put in a room from which a patient with small-pox had just been removed, without its having been cleansed. Both suffered from malignant small-pox.

We got the Board of Health for the City with power, but only by certain subterfuges and because of some very clever legal wording in technical language, for it is very probable that in a certain way the legislation for the establishment of a Board of Health was a violation on the Constitution of New York State, as it then read. I said in my History of Medicine in New York:

"In order to establish such an autocratic bureau, however, among a people jealous of their liberty, tact had to be used, and the language of that portion of the bill conveying the most ample powers was purposely made very technical. Mr. Dorman Bridgman Eaton, who had studied English sanitary legislation carefully, was requested to draw up the bill, and it was he who was mainly responsible for the form in which it came to pass. He felt that the meaning of the legal phraseology would have to be passed upon by the Court of Appeals before the law could be successful. On the organization then, of the Metropolitan Board of Health under the bill drawn by him, he accepted the position of counsellor to the board, and argued the case for the constitutionality of the law, which, as he had anticipated, was early brought against the board. He was successful in the lower courts, and fortunately won in the Court of Appeals, though only by a majority of one. At first there was not a little solicitude lest the powers of the Board of Health should be abused or fall into the hands of those who would use them selfishly for political purposes, but now it is recognized that Mr. Eaton's work was one of the most important contributions to community good that has ever been made."

I wonder if anyone would now venture to suggest that because of the liability to abuse of its power in a democratic country, the status of the Board of Health in New York City should be made different. Is there any police power quite equal to that of the Board of Health? How it can invade personal rights and individual privileges and walk into your house and take your children away, if they suffer from smallpox and prevent the children from going to school if they are not vaccinated, and the hundred and one other things in which it is almost an absolute autocrat. It is a typical example of the truth of that old maxim that the best way for people to be ruled for their own good is by a beneficient autocrat.

Now why could we not have an autocracy of another kind for the prevention of abuses rampant among us now that are undoubtedly increasing our suicide rate and our murder rate and the number of crimes by violence because the story of hold-ups frequently repeated is getting into the minds of suggestive young people? Note how many of the bandits who are caught are in their early twenties and how many more of them are even under twenty.

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Physicotherapy in Dermatology

II.: Thermal Agents

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Thermal agents are of great value in the treatment of various cutaneous disturbances. On the whole they are most useful in removing tumors and certain nevi. For most of the conditions in which they are employed they are not necessarily the only, or even the best, agents. They may be divided into two groups, extreme heat and extreme cold. Heat may be applied by means of the actual cautery, electrocoagulation and dessication. Cold is employed in the form of carbon dioxide snow and liquid air.

The actual cautery may be of the old fashioned Pacquelin type or of the modern electrically heated type. The size of the applicator is varied according to needs. The very minutest is called the microburner. Various models of apparatus for electrocoagulation and dessication exist. The choice of these is a matter of personal preference. Dessication is based on the principle of the high frequency spark, and electrocoagulation on that of diathermy. Carbon dioxide is used in the form of a pencil applied with varying degrees of pressure and for varying lengths of time according to the nature and size of the lesion to be treated. Liquid air has fallen into disuse, not because it produces worse results than carbon dioxide so much as because it is harder to get and more difficult to manage. For this reason it will not be further discussed.

The Actual Cautery

The actual cautery may be used to destroy benign tumors, or to destroy malignant ones in preparation for the subsequent use of the X-rays or radium. The electrical type of appartus is the one to be selected. The part to be treated should be rendered insensible through cocaine or novocaine, local asepsis having been produced by an application of tincture of iodine immediately washed off with alcohol. In this manner warts, fibromata and nevi of various types are excellently treated. Of the last group, small cavernous angiomata, and incidentally granuloma pyogenicum, are peculiarly adapted for such treatment. In structure the pyogenic granuloma is like the angioma, the difference being that the first is of infectious origin, and the second due to an anomoly of growth. Also the trabeculae of the first consist of inflammatory tissue while those of the latter consist of connective tissue. The heat congeals the blood, thus preventing hemorrhage, and destroys the normal tissue, while in the pyogenic granuloma it effects sterilization, provided cauterization is sufficiently extensive, the lesion being relatively deep seated. In angiomata the application need not exceed the limits of the growth itself. A crust forms no larger than the area treated, which falls off in a week or ten days leaving the skin somewhat pink, and more or less depressed according to the depth to which it was necessary to destroy tissue. The resultant scar blanches within six weeks to three months, the ultimate cosmetic result being excellent.

At times pyogenic granulomas recur. Patients should be warned of this, and instructed to return at once if there is activity. A pin point crimson spot denotes recurrence, and it is very simple to destroy the tiny lesion. Such misadventures denote incomplete elimination of the original focus, and cannot be invariably guarded against no matter how careful the technic.

In small pedunculated growths of all sorts the actual cautery is highly useful. In fact, if a knifelike tip is used, the procedure is almost ideal, for the principle of ablation is added to that of burning. Certain spider nevi are well treated by this method if a small tip is selected.

With such contingencies in mind Unna devised the so called microburner. It was used by him for the destruction of spider nevi, telangiectasia and hair follicles, as well as very small lesions of all types and origin. The electrolytic needle is superior for such conditions. In the author's opinion there is no field for the microburner. It is no less painful than the needle, and far less accurate, since its destructiveness is less finely controllable.

Brocq of Paris uses the actual cautery in the treatment of pustular ance. He plunges the heated tip into the pustules. It certainly cures the lesions, but it does not cure the acne, nor does it prevent comedone formation. It hurts intensely and leaves bad scars. To see the procedure carried out strongly suggests some of the probable scenes that made the Inquisition unpopular, particularly with its victims.

Malignant growths, when suitably situated, can be well treated by the cautery. The area is rendered insensible, the growth curetted until all of the soft, proliferating tissue is removed, and the cautery is then boldly applied to the base and edges for a distance well beyond the visibly affected territory. Although this may in itself suffice for a cure, it is more circumspect to regard it simply as a preliminary to the application of the X-rays or radium, according to the requirements of the case. It may not be ill-timed to repeat that probably wide excision of malignant growths is the method of choice. If, however, circumstances render surgery unfeasible, curettage, burning and the immediate use of radio activity form a second, and almost equally good, approach to the problem. As will be seen below electrocoagulation or the high frequency spark may be substituted for the cautery in this scheme, curettage being unnecessary if electrocoagulation is preferred.

The cautery is highly useful in the management of certain chronic cutaneous infections. Before the introduction of arsphenamin it was considered good practice so to cauterize primary lesions. Today this is unnecessary. Obstinate soft chancres however may be treated to advantage by this method. Lupus erythematosus, although scarcely to be regarded as an infection, is still cauterized in certain parts of the world. Such treatment should nowhere be regarded with particular favor, for in recent years better and more elegant physical theraphy is available. In the treatment of skin tuberculosis, particularly in lupus vulgaris and in tuberculosis verrucosa cutis, the cautery is most valuable. Excision of such lesions opens the lymphatics to infection, and hence to extension of the process. But if the lesion is destroyed with the actual cautery the lymphatics are not

opened. For the reason that if local anesthesia is employed infection may be carried into sound tissue by means of the passage of the hypodermic needle through undetected active foci, it is theoretically sounder in judgment to give the patient a general gas narcosis. Ether is inadvisable on account of its inflammability. Such treatment is employed only in restricted lesions, together with suitable general treatment, but in widely disseminated lesions it is obviously useless.

A great many other lesions of all types, such as hypertrophic inflammatory papules and nodules, and the floor and walls of sluggish ulcers may be cauterized, and with good effect, but almost without exception more advantageous therapy of other varieties can be found. The cautery is almost the only means of treating Moeller's Glossitis. Whether to employ it in leucoplacia buccalis or not is debatable. When used with judgment, as the foregoing illustrates, the actual cautery is valuable, but its sphere of utility is constantly shrinking as other and better destructive agents are being perfected.

Electrocoagulation

Electrocoagulation is restricted in practice to the treatment of malignant growths of the skin and mucous membrane, which for some reason or other are not ameanable to surgical removal. In the hands of men like Pfahler and Clark of Philadelphia excellent results have been reported. The procedure should, however, always be combined with surgery and with the use of radium or the X-rays. There is no particular reason for not employing it in small benign growths and angiomatous nevi, or even verrucous and fibromatous types, as well as in lymphangiomatous forms. But this is unnecessary and somewhat comparable to breaking a butterfly on a wheel, since simpler methods exist.

Dessication

The principle of dessication is charring produced by the high frequency spark. The length of the spark is varied with the size and nature of the lesion, but should be, roughly speaking, at least equal to the radius of the area to be treated. It is impossible to describe the process accurately since there are so many models of suitable apparatus. The duration of a given treatment also varies with the size and nature of the lesion but should be continued until either a white soft mass forms, or a charred brownish one. In general it is less painful to hold the applicator somewhat pressed into the lesion, but at times there are reasons for letting the spark jump a short distance. This produces a drier scab. The chared mass is removed with a sharp curette, and with proper technic no resistance is offered to the implement. The denuded surface is then lightly charred or touched up with tincture of iodine. In any event the entire process rarely requires more than a moment to be completed. As a rule it is not necessary to render the part insensible, unless the patient is timid or extremely sensitive, or unless the part to be treated is one rich in nerve supply. Of course, if large lesions are treated, requiring long sparks and long exposures, local or general anesthesia must be employed. The details touched upon are easily met by the use of common sense. Lesions suitable for this form of treatment are nevi, tumors and certain localized infections.

Small angiomatous nevi respond excellently to the high frequency spark and are easily reduced to a shrunken, charred mass. The advantage of such treatment is that hemorrhage is virtually eliminated. Subsequent curettage is contraindicated. Small solid nevi of any type are equally well removed by this method, the final scarring being almost unnoticeable, under skillful technic. It is doubtful whether pigmented moles are not better treated by excision, but unquestionably it is safe to use the spark on the vast majority of growths of this type.

Small benign tumors of any nature are treated in a manner corresponding to that of nevi. Common warts yield particularly well and rarely recur, but the method is contraindicated for warts near the nail bed, both because this area is extremely sensitive and because there is danger of injuring the nail bed, with resulting nail deformity. At this site radium is preferable but is rather less frequently successful than dessication, for recurrences do not exceed ten percent of the cases treated by the latter method. Minute filliform warts of the bearded region, and small papillomas and pointed condylomas are indications for the use of the spark, but some kind of local anesthesia must be used in involvement of the mucous surfaces. Juvenile warts are not indications for this method because of their number and because of the youth of the patients.

Carbon Dioxide Snow and Liquid Air.

The principle underlying the use of these substances is that of the destruction of tissue by means of freezing. Whether justly or unjustly liquid air is not widely employed, largely because it is difficult to procure and cannot be preserved in containers, ready to apply at a moment's notice as can the carbon dioxide pencil. Carbon dioxide in its gaseous state is kept on hand under high pressure in a metal drum. Just before an application is to be made the gas is allowed to escape into a pencil shaped mould in which it freezes solid. There are various types of moulds on the market, or they may be devised in one way or another in the office. Their length and diameter vary with the individual requirements of the lesion to be treated. The end of the pencil to be applied to the lesion is whittled to conform to the shape of the latter. The pencil is then applied under various degrees of pressure and for various lengths of time, according to the nature, size and depth of the lesion.

After an application of this so called snow, the tissue treated is depressed, white and hard. This is due to actual freezing. Within a few seconds the tissue thaws, its color again becomes normal, and it swells. A few hours later a bleb develops which ruptures in a few days, and leads to the formation of a crust. In the course of a week to ten days the crust falls off, the treated area being healed. During this entire period suitable dry dressings are made. Occasionally mild infection occurs leading to superficial ulceration. This should be dressed as any simple ulcer would be. Whether ulceration takes place or not the final scar is soft pliable and approximates in color that of the normal skin for the given area.

Although snow in its day was used in a great variety of conditions, its present field has been narrowed down to acknowledged utility in practically only simple vascular and angiomatous nevi. A great many of the group amenable to snow are better treated by means of radium. On the whole, however, snow is better in port wine marks than is radium. A great many authors extol the Kromayer lamp above either of the other two agents.

(Concluded on page 156)

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The advantage of early massage for injuries mentioned a moment ago, is shown by the rapid removal of extravasated blood, the gradual receding of edema, the prevention of stiffness and, to a certain extent, the checking of muscle-waste. If early massage is neglected, or undervalued, the extravasated blood will naturally become organized and fibrous tissue will take its place. The soft tissue near a fracture —the muscles, or near a joint—the tendons, the ligaments and the capsule, not having escaped injury, lose their elasticity and become hardened. Adhesions will be formed. In nearly all cases of fracture of bones of the extremities there is a more or less severe sprain of the adjacent joint. If an injury of this kind is not taken into consideration, and the part so injured is placed in a cast or splints for a long time, the unavoidable result will be fibrous ankylosis and a more or less crippled limb. The hesitation to apply massage and gradated motion, for fear of disturbing the union of fractured bones, is mostly unfounded. Besides, a fragment of bone, even as short as in Colles' fracture, can with skill and judgment be held in its proper place while the adjacent joint is subjected to active or passive motion. Should, however, a slight amount of movement occur between the fragments while a limb is being so treated, it will have no great tendency to prevent a union, but on the contrary, it will favor a union, a fact which was demonstrated during the last century by such surgeons as Championniere in France and Sir William Bennett in England. As far as I know, Dr. Douglas Graham of Boston was the first medical man in the United States to condemn the orthodox method of absolute immobility of injured joints. In the third edition of his book "Massage", the first edition of which was published in 1890, he makes the following strikingly convincing statement: "Supposing a price were offered for the quickest way to make a well joint stiff, what more effective means could be resorted to than first give it a wrench or sprain, and then do it up in a fixed dressing, so that the resulting inflammation would have an opportunity of producing adhesion of the parts? And this is the prevailing treatment of sprains!"

In order to prevent fibrous ankylosis of adjacent joints after simple fracture of one or more bones of the upper or lower extremity, massage cannot be commenced too soon, providing the local condition of the skin over the part—from laceration or wounds —does not demand a postponement of its application. After the fragments have been placed in accurate position, the joints not covered by the cast or splints should be exercised by the patient himself several times during the day. If nothing but the fingers or toes can thus be actively moved, the alternate contraction and relaxation of the muscles around the fracture will prevent adhesions and clogging of the muscles, facilitate the circulation and promote the union of the bones. After two or three days the fixed dressing should be removed, the limb placed on a table or a board, massage applied and after the massage, the hand, the elbow, the foot, the knee, or whatever the part may be, gently moved both actively and passively, but as far as possible. The range of motion should be increased by degrees day by day until full function is obtained. The cast or splints, of course, to be replaced after each application of massage and motion. By the adoption of this simple method the full use of the limb may be assured as soon as the union of the bones has taken place.

Unfortunately, I am seldom favored with cases of recently fractured bones with the object of preventing fibrous ankylosis and disability. However from a few cases recorded I will mention a typical one:

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Similar attention should be given to such injuries of soft parts as dislocation and sprain not accompanied with fracture of a bone. Massage and passive motion cannot be commenced too soon in these cases. Massage being given with the object of dispersing the extravasated blood and serum, and passive motion in order to prevent adhesions. The remarks of Sir William Bennett on this subject are very interesting. In his "Lectures on Massage and Early Passive Motion in Recent Fractures and Other Common Surgical Injuries" (pages 39-40), he says:

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"In the practice of the older school of surgeons prolonged fixation of a joint after dislocation was almost universal, the main object being to allow of a firm and rapid union of the rent in the capsule. So much was thought of the value of the healed capsule in retaining the parts in position that the disadvantages of adhesions and muscle-waste were held to be of no account compared with the vital importance of the completely restored capsule. . . . Ignore the torn capsule; the rent will heal soundly in spite of any rational manipulations or movement it may be subjected to in treatment."

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In the beginning of this paper it was mentioned that in certain fractures, as of the patella, the olecranon and intercapsular fractures of ball and socket joints, movement must of necessity be somewhat postponed for fear of disturbing the apposition of the fragments. I have never been requested to see cases of this kind sooner than five or six weeks after the occurrence of the fracture. But the opinions of surgeons seem to differ considerably on this subject, if one is to judge by the text books and articles in the medical journals. Besides, not two cases are exactly alike. In transverse fracture of the patella the immediate use of massage, including lateral motion of the patella, is naturally indicated. The danger of early passive motion of the knee joint is not so very great when it be remembered that the principal extensors of the leg—the vastus externus and the vastus internus are inserted on the lower sides of the patella and extend fibres to both the capsule and the tuberosities of the tibia. The best results I have had after long immobilization have been active flexion of 45 degrees of the leg on the thigh, a range of motion which makes a leg useful for all practical purposes.

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Total	544	644	118

Fibrous Ankylosis after Arthritic Conditions

St. Luke's Hospital ..	33	74	35
Hospital for Ruptured and Crippled	80	393	96
Total	113	467	131
Total after all injuries	1831	2041	414

Total of all cases: 4286.

In order to ascertain the average number of treatments required, the report of St. Luke's Hospital from October 1, 1921 to October 1, 1922, shows the following result:

82 patients discharged cured after fibrous ankylosis resulting from immobilization after fracture, received in all, 1325 treatments = 16.1 per patient.

31 patients discharged cured after other injuries were given 354 treatments = 11.4 per patient, and 5 patients discharged cured of chronic arthritis received 109 treatments = 21.8 per patient.

It must be regretfully acknowledged that the first part of the preceding report includes only a very small percentage of cases of fibrous ankylosis in which surgical convalescence was not necessary after the establishment of union of fractured bones, while it is really the ideal aim of modern physiotherapy to synchronise full function with a perfect osseous union and so endeavor to prove the truth of the old proverb which says that "Prevention is better than cure."

181 West 87th Street.

ETHMOIDAL DISEASE AND SYSTEMIC CONDITIONS

HAROLD HAYS, M.D., F.A.C.S.
New York.

The ethmoidal cells, placed high up in the nose and wedged in between the nasal bones, are mainly responsible for the moisture in the nasal chambers. Their pathology is very evident whenever there are polyps and whenever there is a suppurative condition with drainage from the various sinuses. But the pathology is not so evident in those cases, in which the X-ray shows nothing and a casual examination of the nose shows nothing. Yet it is in just such cases that the severest systemic reactions can occur. The mucosa which covers the middle turbinate hides the condition within the cells themselves. These cells, varying in size from a peanut to other cells the size of the head of a pin can have within them a pathological mucous membrane which may either cause trouble through pressure or because of the lodgment of infectious material.

It is only within the past few years that we have been able to associate ethmoidal disease with various systemic conditions. Many of these conditions occur in surrounding parts, such as the eye or the influence may be exerted on remote parts, depending on whether an infection is present or whether the patient's physical condition becomes so run down, as a result of the ethmoidal process that the disease acts reflexly.

The eye specialist comes up against numerous conditions for which he was formerly unable to account. It has taken him many years to realize the fact that the sinuses within the nose, especially the ethmoid and sphenoid cells, are at fault. The reason for this is obvious for the ordinary examination, in many instances shows nothing and it is the result of operation upon these parts which shows the way. A case in point is the following: A young woman of twenty-five suddenly lost the sight of the right eye. In three days she became totally blind. During the next three weeks, she was examined by a number of prominent physicians, none of whom could account for the trouble. The writer was then called in consultation. Examination of the nose was negative. Examination of the X-ray plates was negative. But previous experience had shown that an optic neuritis of this kind was often due to some ethmoidal trouble which could not be discovered on examination. She was taken to the hospital that same night and the ethmoid cells, spheniods and antra were opened up and drained. At the end of three days, she began to see out of the right eye and at the end of a month, she was able to read large print in a newspaper. In other words the operation showed plainly that the amblyopia was due to pressure upon the optic serves, no doubt indirectly through venous channels. Another striking case was that of a young woman who had a thrombosis of the central vein of the retina which, fortunately at the time, did not interfere with her sight. After every other condition in the body was ruled out, it was decided that the ethmoidal cells on the same side of the nose should be operated upon. Most of the cells were removed *en masse*. Close examination of them showed thrombosed vessels in the ethmoid cells, similar to the thrombosis in the central vein. Other, similar cases could be cited.

Among the systemic conditions for which an infection in these cells may be responsible are certain types of neuritis and arthritis. In other words the infection in these cells is the local focus. Very often such a condition in them is associated with an infection in the antrum. Of course one must always rule out any infection in the tonsils or the teeth or the intestines. It is always a wise procedure, in these vague conditions, to have an X-ray picture taken to determine the exact condition of the sinuses. If the findings are positive, they may be of great value.

2178 Broadway.

The Use of Vaccines in the Prevention and Treatment of Influenza and Its Sequels

Prof. Frederick P. Gay, of the University of California Medical School, said (*J. A. M. A., Jan.* 22, 1921):

"When we come to consider the use of mixed vaccines, we find at once more valuable and more enthusiastic reports as regards their preventive value. A whole series of observers—Rosenow, Cadham, Eyre, and Low, Kraus and Kantor, Cary, and Minaker and Irvine—have apparently demonstrated a distinctly diminished incidence of influenza in the vaccinated as compared with the unvaccinated, and the particular writers to whom I have referred have for the most part carefully controlled their cases by a group of unvaccinated individuals." * * *

"Mixed vaccines have been used, not only preceding exposure to influenza, but also during the course of the disease in the hope of preventing its complications. There is a steadily growing body of information, some of it of apparently considerable critical value, that would seem to indicate that a mixed vaccine containing streptococcus and pneumococcus in addition to influenza bacilli will notably decrease the pneumonic complications of influenza." * * *

"Cary, and Roberts and Cary, have not only prevented the occurrence of pneumonia by the use of a mixed vaccine, but have actually produced a rapid cure of pneumonia during its course." * * *

This statement by Dr. Gay was "prepared under the auspices of the Council on Pharmacy and Chemistry of the American Medical Association," and "is presented to the profession to serve as a guide in the use of vaccines."—(*Journal A. M. A.*, January 1, 1921, page 33.)

A mixed influenza vaccine (Sherman's 38) has been extensively used in the prevention and treatment of colds, influenza and pneumonia. This vaccine is non-toxic and can be administered in one c.c. doses every twleve hours in the pneumonias with very gratifying results. One of the most striking features is the rapid defervescence which follows the injection within 24 hours where the vaccine is given early in the disease. The mortality where this vaccine is used, is reported to be as low as five per cent.

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Decadence

Evidences multiply that the old pioneer stock of the country is largely decadent to-day. Recently a scion of the John Kearsley who was a noted architect and physician in early Philadelphia, and of whom we published a sketch in the February issue of the MEDICAL TIMES, achieved a notoriety very different from the fame of his forebears.

Such incidents bear out the affirmations of Mr. Albert Edward Wiggam in the *Century Magazine* regarding the influence that modern mechanistic philosophy is exerting upon our spritual life. The so-called "literature of despair" has been produced largely as a result of this influence. A Nietzschean pessimism pervades college faculties. Most of our biologists, psychologists, physicists and chemists are of this mechanist school, which Mr. Wiggam believes threatens civilization.

Practically, this philosophy results in either a vulgar Epicureanism which seeks mere satisfaction of the senses, or in a more passionate Epicureanism which emphasizes only the emotional values of life, or in social and moral revolution of a sort likely to wreck civilization altogether.

This sort of thing becomes an added factor in the decadence of the old stock.

That our civilization contains in itself all the seeds of its own destruction may soon be impressively demonstrated. Let us hope that some sort of castor oil will be taken in time by our pessimists. A moral catharsis is certainly in order. Far from our present chaos resulting from the world war, that debacle was initiated by it and only revealed the rottenness of things.

Light on the Incest-Convention

The popular notion that the incest-convention has grown up as a result of observation of the evil effects of inbreeding, or through an "unconscious" knowledge of such evil effects, has been shown by Knight Dunlap of Johns Hopkins, and other psychologists, to be entirely fallacious. It is well established that inbreeding has in itself no evil effects. Stocks do not deteriorate through consanguineous marriages, but strong points as well as points of weakness are accentuated.

What, then, is at the bottom of our rigid conventions as to possible sex-mates? Dunlap shows that these conventions, without exception, make against the sex-mating of what may be designated as "house-mates." The individual must look for a sex-mate beyond the limits of his immediate "family." The prohibition against mating with cousins has persisted although cousins are no longer, as a rule, reared in greater intimacy than children not blood-related at all. Dunlap finds that these conventions easily direct the sex-impulse, if inculcated early enough, and that their real object is to prevent the too early maturation and excessive development of the sex-instinct. Incest-prohibitions must therefore be religiously, if not blindly, preserved, if the future of the race is to be guarded.

In this connection the observations of Adolphe Louis Cureau, a Governor of the French Congo, upon primitive African races, are perhaps apropos. Incest, he says, is everywhere condemned, more from instinct, he thinks, than from a rational fear of racial deterioration. Among certain tribes this aversion takes the form of a binding prohibition. In other places precaution is carried so far that marriage between inhabitants of the same village is avoided, for woman's virtue is so frail and unstable that a man would otherwise never be sure of not marrying his mother, sister, or daughter, and so it is considered more prudent to go fairly far afield in search of a wife, and this in spite of the fact that the Negro dislikes those outside of his immediate environment.

One of the great Chinese classics, the Book of Rites, enjoins a brother not to sit at the same table with a sister if she be over seven years of age. A father may not sit in the same room as his daughter. Male and female garments may not be hung upon the same rack.

Civilized peoples, in accordance with their inveterate habit in nearly all things, falsely rationalize and sentimentalize about this matter, but the real reasons governing their conventions, wholesome in themselves, ought to be obvious enough. To just what extent feminine virtue is involved we leave to the private judgment of the reader, merely reminding him that according to the questionnaire recently sent out by the Bureau of Social Hygiene to a thousand married women of so-called superior type, nearly ten per cent of them had had sexual relations before marriage.

Radical Psychopathology

Radicals of the Foster and Ruthenberg types are distinguished by two traits that are especially significant to the psychologist and psychiatrist. One is their deadly earnestness, with which is associated humorlessness. The other is their paranoid systematization of everything around their inexorable premises. These men are constantly preoccupied with their specialized tasks, in whose prosecution

they show a peculiar hardness and a fixity of ideas that recall the intellectual incorrigibility of the paranoiac. The mental impact in dealing with these people is like the physical sense imparted to one who pushes against a wall of granite.

Government officials, in dealing with these curious beings in deadly earnestness themselves, aid enormously in spreading radical propaganda. Whole departments of the Government devote their energies to the apprehension and trial of the Fosters and Ruthenbergs. Vast sums are spent in order finally to stage an inquisition—and an exposition. The radicals, from the witness chair, address an audience immeasurably greater than any they could ever, otherwise, hope to reach. This inexpensive arrangement —to them—enables them to command, day after day, for weeks, the front pages of all the country's press, from the *Times* to the *Toonerville Gazette*. An intensive and appealing course in radicalism is thus put across. Perhaps this was one of the things President Harding had in mind when, in his recent address to newspaper men, he suggested a greater recourse to the blue pencil.

There is stupidity as well as humorlessness in such a program, which would almost justify a suspicion that the governmental agencies in question and the press itself were in some sort of collusion with the radicals.

With what weapons, then, should these gentry be fought?

Propagandists who are always in deadly earnest, humorless, and forever systematizing about their queer premises can be routed by ridicule.

It is the cartoonists and humorists of the country who should be organized to fight this battle merrily for us, and not the creatures who have occupied the limelight so much in recent times. They should be resolved into national shock-troops, and should float absurd propaganda looking to the dictatorship of various groups There should be divisions into rival camps, as let us say the barbers against the bootblacks, whose respective claims would be amusingly urged. They could do many other diverting and devastating things.

Bulgaria has given us a cue *(New York Times*, April 14, 1923). Instead of driving her Communists underground, Bulgaria intends to make the practice of Communism compulsory. The property of Communists in each locality where there are advocates of this creed is to be expropriated. The Communists are to be compelled to live in colonies established by the Government. Each member will be forced to share equally in the labor of production as well as its fruits.

The American policy of jailing and beating up these people simply betrays a psychology not unlike that of the radicals themselves It is futile in so far as it represents deadly earnestness and humorlessness.

We need another Artemus Ward, using the methods which he so effectively employed against the Mormons of the polygamous period.

It is, however, extremely doubtful whether Americans in the mass can ever wean, or even wish to wean, themselves of an exaggerated adherence to the theory of violence and cruelty in the treatment of social ills—which of course accounts for such natural by-products as the Ku-Klux spirit and that which actuates lynching.

The Alleged Humaneness of Poison Gas

The experts are now solemnly telling us that the use of poison gas in warfare is to be the most humane phase of the modern battlefield. Nowadays, they say, in a state of war an air fleet would approach an enemy city, and presto! every inhabitant of the place would be wiped out instantly. One would never know, in such a city, what night, or day, might be one's last.

Whatever might be the mode of death in such circumstances, it is obvious that the terror that would prevail among civilians in towns so threatened would quite eclipse anything hitherto known in war. As physicians, we can conceive, in a degree, the nature of that terror.

Are the experts grim humorists, or do they think that they are addressing imbeciles?

It would seem that there are worse things than shell shock in store for our future "civilization."

There is, indeed, some promise that poison gas of certain types can be utilized in the control of epidemic disease and in the therapy of some infections. Let us hope that these will be the only uses to which it will ever be put.

Poe's Caffeinism

The pronounced mental disturbances of Edgar Allen Poe are hardly to be wondered at when one reads in a well known biography of the poet that he was accustomed to sitting up all night when writing, while his mother-in-law, Mrs. Clemm, made a cup of coffee for him every hour. We daresay that even those who are disposed to minimize the effects of coffee as it is ordinarily drunk would be inclined to concede that Poe's excess did not contribute to his mental stability. We recall the case of a young woman who when drinking six or more cups of coffee a day would develop pronounced delusions regarding a neighbor, on one of these occasions actually having the innocent neighbor arrested on a serious charge. This young woman never manifested such symptoms except when intoxicated by caffein. We wonder to what extent such excess figures in the breakdowns of our neuropaths.

Miscellany

CONDUCTED BY ARTHUR C. JACOBSON, M. D.

The Uplift

Washington is really a wonderful place. We have here some fine buildings which ought to be visited more often by our people. We have some fine museums and all sorts of wonderful exhibitions. In one building that I step into occasionally there are a number of excellent displays showing the works of mercy performed by the employees of the Red Cross. . . . In another place I know of, there are statistics which will show you how many teeth you ought not to have at forty, sixty and eighty, the price of coal on Lake Athabasca, the depth of the water at the highest mark during the Johnstown flood and the specific gravity of wood alcohol. All are interesting and very, very enlightening. You will never know what a stupid, helpless creature you are until you take to an examinaton of one of these exhibitions. How, in the name "of all that's good and holy," our fathers and mothers managed to survive one minute of life in the ignorance in which they lived and had their being is beyond all understanding. From study of these new-fangled health and hygienic statistics and "hints" I have concluded that my

mother, who lived to be sixty-seven, should have died before she was born. Your expectancy of life, it seems, is decreased seven years by the birth of a child. My wife, at twenty-seven, is the mother of five. Result: She is eight years ahead of herself. She says that it is not unlikely that she will have five more; in which event I married her in 1852. I have hopes of some day coming across one of these government exhibitions which will depict me, with half a dozen grandchildren, eating popcorn at the Philadelphia Centennial Celebration in '76.—Eugene Weare, in *America*.

Imperfect Technic

George Mitchell of 61 Union Avenue, Brooklyn, has been suffering from the agonies of a molar toothache for the last two weks. Since midnight Tuesday he has been suffering also from self-imposed tonsillotomy.

It came about this way. George found the toothache unbearable shortly after midnight. And dentists in Williamsburg are not available at that hour. So George found the household gas pliers and went to work himself. In the dark, however, he got hold of one of his tonsils instead of the offending molar and gave a savage yank.

His screams awakened other tenants in the house, who summoned an ambulance from St. Catharine's Hospital. The ambulance surgeon treated Mitchell for a badly lacerated tonsil and left him at home in a very painful condition.—*New York Times*, April 19, 1923.

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most to fear from its own reactionary or obstructive tendencies. It has most to gain from open-minded cooperation and a policy of first consideration to the relief of human misery. Under such conditions I foresee clinical medicine enormously extending its power and influence with the people, the breaking down of quackery and pseudo-science and the elevation of the practice of medicine to a much higher economic, as well as scientific, plane.

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DISCUSSION.

Dr. Roy K. Flannagan, Assistant State Health Commissioner, Richmond, Va.—This subject is interesting in view of a discussion yesterday as to whether the public health officer is reducing the docotr's income, or, at least, the amount of his practice. It is time for the medical profession to begin to put an anchor to windward and to devise ways and means of fitting itself into the public scheme. This will have to be if we are ever to see the end of our labors. Life extension is distinctly a point of contact with the physician. There is no question that, in the course of time, the preventive idea will be so deeply rooted in the public mind that there will be a demand for less sickness than at present, and a continuing diminution of sickness. If this is a fact, is the doctor gradually to be run off the stage? I do not think so. I think the point that Dr. Fisk brings out is true, that this big gap between the public and the medical profession will be bridged, and it will be bridged with very much less disturbance between the doctor who does not understand and the public health officer, if the life extension idea is brought to the fore. We need these life extension clinics. We need, as public health officers, to enter this field, but I do not believe we should enter it at the expense of the job we of the South have already undertaken. I do not think we should go too far afield. We have already undertaken the work of sanitation in our rural districts, for instance, and the handling of communicable disease in all its forms and we should not let anything else interfere with this work. But we should begin here and there, where the health departments have compassed their job in large measure, experimenting with this thing, holding these life extension clinics as we can. Certainly, if we do this, we shall be better able to insure ourselves, as public health officers, against the accusation that we are taking bread out of the doctor's mouth.

Dr. James A. Hayne, Columbia, S. C.—As a man of fifty or perhaps more, I am extremely interested in the question of the span of life's being extended. I feel like Bernard Shaw, that it would take at least three or four hundred years to accomplish all the things I want to do, and if anything will give me a year or two more, I want to know of it.

The ordinary fee for a thorough examination by all the necessary specialists now is about $1,000. We find that these fees are usually charged. Where is this thousand dollars coming from in the case of the man who has about $2,000 a year (which is above the average income in the United States)? Where can he get the thousand dollars? The medical profession says that he must not have any possible help from any source, that the state must not help him, that industry must not help him, that that is state medicine, and the medical profession is unalterably opposed to state medicine in any form. That is a problem which the medical profession has to solve, that part of the profession consisting of the general practitioners and the specialists who are practicing remedial medicine and who deny the right of the state or county or municipality to furnish to their moderately-incomed citizens the possibility of benefiting by modern scientific medicine.

Dr. Robert L. Jones, Nashville, Tenn.—In our health departments we have been rather successful in weeding out communicable diseases. Starting out twenty-five years ago as smallpox quarantiners, we have now gotten to the point where we have taken care of most of the communicable diseases. Dr. Fisk has brought out the idea that we should go into the work of preventing degenerative diseases. So it is incumbent upon us, I think, to broaden our field. How we can do it I do not see just now, except by education.

The second idea is that of another specialty in medicine, the practice of preventive medicine as a specialty, without connection with any city, county, state or national government at all, but for a man to take the position of practicing preventive medicine as a specialty, just as he would practice eye, ear, nose and throat surgery, etc., and encourage his clients to come to him once a year for physical examination, just as a dentist does, and refer them to the various specialists. That seems to me the proper place for the group, a group of men doing no therapeutic work, either medical or surgical, but simply surveying a man once in six months or once a year and directing him into the proper channels, or ascertaining that there is nothing the matter with him. People should certainly be willing to pay to be told that there is nothing the matter, or to be directed into the proper channels.

Dr. Fisk (closing).—This is one of the biggest problems that faces the civilized world, because, unless we can see our race improve in physical condition, we shall expect a downfall to come. Always, with good vital statistics, when we have found a high typhoid death rate, or a high death rate from any communicable disease, organization has come to meet the problem, and organization will come to take care of these defects revealed by periodic examination.

In our report to the Hoover Committee on the Elimination of Waste in Industry I tried to suggest all possible remedial lines of action. In industry there is a great opportunity. Millions of people can be brought under and combined into an industrial and individual health program, where the expense can be distributed without taking away the independence of the individual. We should eliminate, as far as possible, paternalizing and taking away the individual's independence.

To show the gravity of the problem, I figured that we had advised medical treatment which would cost from five to ten million dollars. More than half the people we examined were advised to go to the doctor or dentist, and I figured that, on a conservative basis, the necessary treatment would cost that amount.

I think the health specialist will come. This is a National question, affecting the health of the whole people.

We not only avoid treating people, but avoid sending them to a particular agency for treatment. It is thought by some to be a cold-blooded mechanical proposition. That is not true, but I believe that many people would prefer something of that kind, something impersonal, to going to a neighbor who will be governed largely by his casual knowledge of the individual rather than by an impartial searching investigation. The health examination is criticised sometimes as being mechanical, but that mechanical feature is one of its advantages. There are many ways to do this work, and the right way will eventually be found. The important thing is to open our minds to the message, and to close them to professional prejudice which will retard progress.

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the patient bends forward and backward, remaining in the former position until he has slowly counted ten.

This exercise is somewhat more strenuous than the former, although it does not seem to differ much from it; but it nevertheless is true as the effort is concentrated in this on one leg at a time.

This so-called "charging exercise", if in the beginning carried out five times, twice a day with each leg, will be found to be all that the average patient can tolerate. The number of times should be gradually increased by specific instructions from the operator, in order to avoid fatiguing the patient and to have him under control at all times. We have found it of value to have the patient start with exercise No. 1 the stated number of times, then gradually to increase the time, and in the second or third week to add exercise No. 2 or No. 3 or both; beginning with the stated minimum of each and gradually increasing it.

As the range of flexion increases, the heel of the patient's shoe can be lowered, accordingly, but care must be exercised in this. The heel should never be lowered at any time more than to assure a reaching of an angle of 75 degrees between the bearing surface of the shoe (heel and sole), and the leg, without strain to the foot.

The often suggested procedure of gradual change from a high-heeled shoe, which accommodates the shortened calf-muscles, to a low-heeled shoe through the stages of medium high-heeled shoes is not a safe one unless the shortened muscle be lengthened first. To change from a high-heeled shoe to one less high and after a little while to another still less in height and so on until the desired height of heel is reached that is deemed correct, without lengthening the muscle for each change, would strain and weaken the foot. A great many weak and flatfeet in women are attributable to just such modes of stretching.

(Concluded from page 143)

and never a "Dr. Donothing," who occasionally is responsible for fitting a patient for a wooden-overcoat and then turning him over to Mr. Undertaker! Never *boast* of the number of cases you have, of your remedies, operations and wonderful cures; or the suprisingly large amounts of your collections. *Never exaggerate* because exaggeration weakens. Ringing your own bell does no good and is apt to create jealousy, disbelief and hostile criticism. Also avoid the habit of making *yourself* the subject of conversation, or talking about yourself; or telling from house to house how *very-very* busy you are, of your numerous bad cases and claiming to save the lives of all those patients, who do not die. "Everybody knows that there is no law against *lying* and that exaggeration is simply a branch of lying!" Be ever mindful of the fact, that even though a physician may be; "as pure as the driven snow," still he may be misrepresented by wicked hearts and lying tongues. While some people will favor and extol you, secret and open enemies may oppose and decry you; still you must take care that nothing be permitted to blast your reputation for upright honorable conduct. A physician's life is full of moral conflicts—and how often you will be confronted with a request to perform an abortion; to save a poor girl's character; to prevent her mother's heart from being broken; her father from committing murder or suicide or both; or the fool, who has taken criminal advantage of her from being disgraced, as well as a hundred other anticipated evils. *Sympathize* with them in their trouble, but be prompt, strong and positive in refusing to consider their entreaties or arguments. If they happen to be too insistent, why inform them that they have entered the wrong man's door, and then express your sentiments in *upright, downright* and *outright true American* frankness and then bow them out of your office. The production of criminal abortion is not only one of the meanest and most cowardly crimes a medical man can commit, but in the eyes of God and the universal opinion of all *real* men of the world is that any man, who interferes with gestation, *regardless* of what the period may be, is guilty of *downright murder!*

Above all else beware of a certain temptation, to which the practice of medicine, especially exposes you; the irregularities, anxities and exhaustions; the cold, wet and hunger; the night work, loss of sleep, the weary brain; and the hospitality of patients and friends all unite in tempting physicians to use alcohol or drugs, to maintain their mental and physical balance. These are just about as useful as a snowball in Panama! And if perchance a physician should become addicted to either, which oftentimes does happen, God help those who employ him! In medicine be careful of your conversation: A pure tongue to patients is a pure mind, in other words, "A physician's conversation is the mirror of his thoughts." Professional morals are such an important part of medical education today, that I firmly believe, every medical college should present to its graduates, along with their diplomas, and if possible attached to same, a set of rules on medical ethics.

In performing your duties to your fellow man do all the good you can, to all you can, in all the ways you can and remember at all times; that every action, every word of your tongue, every nod of your head and every shrug of your shoulders will be observed and weighed. *Always remember,* in your personal conduct, "that if you are true to yourself, you can be false to none."

In conclusion, I sincerely hope that these few collected rules and personal remarks will encourage all (if you have not already done so), to make a study of those *sacred principles,* necessary for a successful medical ca-

reer. Discussion of these well defined principles, which I have only briefly and crudely defined here, *should be unnecessary,* for you and all other physicians are supposed to study these principles of medical ethics, and to be familiar with their requirements. The claim that these principles have upon *you,* rests not upon any obligation of personal friendship you may have toward your professional brethren, but upon the fact, that they provide for every relation and occasion and are also founded upon a broad basis of justice and equal rights to every member of the profession; *shining* like a polestar to guide and direct *all,* who wish to pursue an honorable course. A physician who *does not* live up to the "ten commandments of God" cannot understand the reason, why there should be a set of rules for medical ethics. We do not expect such a man to understand anything, but if he were to understand, *like* "God's Holy Ten Commandments" they would mean nothing *to him* anyway. Therefore A physician not a man in the eyes of God, cannot in these days, expect to be considered such by his fellow men. How few of us ever stop to think, what a wonderful wonder any up-to-date physician of this great twentieth century would be, were he the *only* medical man in the world? Would not all mankind look upon him, as almost a god of miracles? How many of *us* ever stopped to admire and read, that beautiful tablet, adorning the walls of the Brooklyn Academy of Medicine, and dedicated to the memory of the late Dr. George Ryersen Fowler; which reads as follows: "A servant of mankind; the friend of suffering; a brother among brethren; wise in council; sagacious in debate; courageous in the hour of danger; undaunted in the face of death; his life an inspiration to the young; a challenge to his peers; an example to all." Strive, as we may, few of us expect to be able to live to "The Fowler Standard" *neither* do we expect to be, as brilliant, as the late Dr. John B. Murphy, but what we can do, is to religiously endeavor to follow those *great* principles of medical ethics to the best of our ability in order that we may be looked upon *in life,* as noble men of our profession; and that when *death* claims us; our medical brethren will be *proud* to inscribe over our last resting place—*these three honorable* words: "An Ethical Physician."

441 Clinton Street.

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And then sex irregularities which apparently we are encouraging in every way. Why should we not be able to regulate these matters? Of course there will be just as much of a howl of opposition as there was with regard to the regulation of health, a scant fifty years ago. It wil not be sixty years for another three years.

Discussion

Reynold Webb Wilcox, M.D.: We all appreciate the timeliness of Dr. Walsh's subject and accept the premises offered, although in respect to the Board of Health we may think that some of the statistics that it offers from time to time might classify it among the three varieties of prevaricators named by Dr. Walsh. We know the Board of Health has accomplished a great deal. But the scientific physician is amused when he reads, after an epidemic has run its course, the announcement by the Board of Health that they have gotten the epidemic under control. It has, however, accomplished much and Dr. Walsh has told how it has gotten to that possibility. The only reason why the arbitrary actions of the Board of Health are tolerated is that in the popular fear of disease laws and customs must go. We are proud of our healthy city, due largely to the advance of medical science and to the ability of our regular practitioners, but not of our list of homicides and automobile manslaughters. The conditions Dr. Walsh wants remedied by another Board of Health, one of the mind, are just the conditions that bring the countryman to the city, and therefore the country this time cannot be relied on to rectify them because if the city did not present these attractions, even the elders and pillars of the church in rural districts would resent the interference with their personal liberty when they came to the city. We all agree with Dr. Walsh's main proposition, but the psychologist sometimes goes too far. A few years ago they said that lines of conduct depended on physical conditions and apparently discovered that flat feet were conducive to crime, and therefore the bank cashier who had flat feet should not be trusted. But to the man on the street it seemed more reasonable to believe that the cashier's flat feet would keep him from embezzlement because with this disability he could not run very far with the bank's money.

Inasmuch as we cannot depend on the up-state people to help us to get a Board of Health for the Mind because that would deprive them of the pleasures of the city, we will be obliged to work it out alone. Why not select some expert psychologists and make it worth their while to suggest to the editors of the newspapers, the publishers of the magazines, and the directors of moving pictures what their part in improving manners and morals should be and thus remedy this evil at its source? If autosuggestion is so powerful and the subconscious mind is so susceptible to the acquisition of fixed concepts this would seem to be the more profitable line of attack.

Dr. D. E. Hoag: At the same time, any propaganda for reform, timely as it is, will cause any one engaging in it to have a stormy tempestous passage. The press is all powerful. It would have been interesting to have members of the press here tonight to say something in their own behalf. They claim that it is a journalistic feat, to gather together the most intricate details of a crime committed in the morning and appearing the evening of the same day, and the public must for himself sift the wheat from the chaff. A number of years ago Colonel Robert Ingersoll delivered a lecture "Is Suicide a Crime?" and, claimed that it was not a crime and this was printed on the front pages of the newspapers in New York. The result was that suicide increased in a year in this city by a very large percentage. This form of suggestion applies to all kinds of crime.

On the other hand, there is yet hope. All of these things are evolutionary. The newspapers used to be full of advertisements of all kinds of cures by patent medicines and charletans, but we do not see Old Dr. Grindle's advertisements any more. Even the medical journals formerly contained advertisements that had to be accepted with the proverbial grain of salt. The Journal A. M. A. has done much to clear up this condition.

Dr. G. Alfred Lawrence: I agree with Dr. Wilcox, that the correction of these evils is difficult to enforce. The public is getting what it wants, not only in the press but on the stage. It can be likened to the Volstead Act which has made us a nation of bootleggers; those who want alcohol get it and those who supply it to them are rich and successful. It is the same in sex matters; every young man and woman wants to know something about sex and if they cannot get the information in the right way they will get it in the wrong way. The more they know of sex matters the more they can avoid the pitfalls. It should be presented to the boys and girls in a proper way and they should have full and complete knowledge on all these subjects, and then there will be less attraction in vice and crime. We cannot consider this idea of a health board for the mind as analogous with the present Health Board. Suggestion often plays a very material part in controlling our conduct but we can have suggestion along proper lines. Many presentations on the stage and in the newspapers are lurid and inaccurate. Much of the crime done is carried on by persons of inferior mentality who are influenced by these suggestions. The thing to do is to properly control these individuals. If we have a moron type not sufficiently intelligent to benefit by education they should be under suitable control and to my mind that is one of the means of solving this problem.

Dr. Eden V. Delphey: In the discussion of this very excellent paper mention has been made of the mental capacities of the misdemeanants and malefactors. While the study and classification of mental defectives is an advance in medical jurisprudence, nevertheless it had not yet arrived at the point when it could be classed, even approximately, as an exact science and until such is the case it will be impossible to consider such examinations as being but little more than an academic study. Moreover, Dr. Walsh told us of a large class of students who were so interested in sex questions that their books on anatomy opened more easily on the pages devoted to such subjects than anywhere else. Surely these students can not be considered morons as they have already passed examinations which show that they are beyond the mental age of this class of unfortunates. Apropos of Dr. Walsh's statement regarding a "benevolent autocracy" as being the best form of government and the proposal to establish "Boards of Health for the Mind," it seemed to him that "benev-

olent" was not sufficient—they should not only be bene-volent but also bene-facient or beneficent. Good-wishing alone is not sufficient, it should also be good-doing. The Department of Health in this city is almost an absolute autocracy and in the epidemic of poliomyelitis in 1916, it established an intensive system of quarantine and hospitalization notwithstanding the fact that only 3.6 per cent. of the families afflicted had 2 cases; only 0.3 per cent. had 3 cases; and only 0.06 per cent. had 4 cases (Monograph on the Epidemic of Poliomyelitis in New York City, Published under the Direction of the Department of Health of New York City, 1917, page 121), showing how little was the danger of the disease being transmitted from one child to another. Nevertheless, the poor little innocent children were torn from their homes and loved ones, almost regardless of how well they were cared for, and jolted over the stony streets of the city from one city block to five miles to hospitals where, on account of the insufficiency or incompetency of the attendants, many were sadly neglected and died. According to the same Monograph, page 179, you may learn that there were 12,574 cases of poliomyelitis with 3,331 deaths in the whole State; 3,365 cases and 81 deaths, or 2¼ per cent., in the State outside of the city, leaving 9,009 cases and 3,250 deaths, or 36 per cent., in New York City, being 33¾ per cent. greater in the city than outside of the city in the rest of the State. 33¾ per cent. of 9,009 cases is 3,047. In other words, the official statisics of the New York City Department of Health shows 3,047 more deaths where the intensive quarantine and hospitalization system was than where it was *not* put into effect.

It is very apparent that even a benevolent autocracy may be very dangerous and that we must scrutinize every project of the kind with extreme care; that we must provide that every man who is a candidate for any position giving autocratic power should be a sane, well-informed, level-headed and safe person for the position so that he may be able to observe the motto so well and long advocated by the late Dr. Jacobi: "Non nocere," Not to do harm.

Dr. L. W. Zwisohn: There is no question as to the power of suggestion possessed by the newspapers and periodicals for good or for bad upon the public. The press is molding the character of our people. It is surprising to see how things are taken for granted because seen in print. For instance, patent medicines advertisement. "Father John's *medicine* cures disease, prevents influenza, it is not a *medicine*, it is a food." Note the inconsistency; it *is* a *medicine* and it is *not* a *medicine*.

No one stops to think that a medicine taken without the advice of a scientific medical practitioner may do more harm than good. As the best gun cannot work to advantage without the man behind the gun. The scientific physician who knows what to give, when to give it, and above all when to stop giving the medicine is the most important factor, not the medicine.

Why do we have so many quacks, charlatans in the healing art? Because the newspapers print any fake advertisements as long as it pays well.

I have seen full page advertisements in periodicals and magazines by chiropractors claiming that during the influenza epidemic they treated hundreds of thousands of cases without a single death. Of course not, they are illegal practitioners, not allowed to give death certificates, and when their patients die the physician has to give the death certificate, and therefore the deaths are credited to the medical profession.

I read lectures by Christian Scientists claiming that there was no epidemic, it was all imagination. Who is to be blamed for such false teachings? The press for printing and spreading broadcast such insane ideas.

A certain weekly, which not long ago exposed fraud in the healing art, is at present advocating all kinds of fakes in the healing art. The reason, it pays better!

Mr. McFadden in *Physical Culture* advocates a law that the scientific physician be allowed to prescribe medicines only. For the physician is not trained to practice the pseudo-scientific methods. Granted! But the new law should specify that the *osteopath*, meaning *bone sufferer*, must be a bone sufferer and the mode of treatment should be bone suffering!

The *chiropractor*, meaning *handwork*, must be a scrub woman, a street cleaner, a plumber, a carpenter, etc. One that may use brain work should be excluded.

It is only through the press that the public is misled into thinking that these cults are promoters of new scientific healing.

It would be laughable were it not so sad, that the human mechanism of whom Shakespeare says: "What a piece of work is man! How noble in reason! How infinite in faculties! In form and moving how express and admirable! In action how like an angel! In apprehension like a god! The beauty of the world! The paragon of animals!" should be the plaything of every quack! of every charlatan! of every lunatic!

It is said, a nation has a government it deserves. It may be truly said, the civilization of a country may be judged by the scientific healing it possesses.

Dr. Walsh in closing: I know how many difficulties there are in the way of getting through the establishment of an organization to act as a board of health for the mind. It was with the idea of merely getting opinions, such as have been expressed this evening in the discussion, that I read the paper. Some years ago there was an agitation for stage uplift and Charles Frohman was asked what he thought of it. He replied that the stage ought to be reformed and that the reformation ought to start with the audience. But you cannot reform the people; there are too many of them, incapable of having things presented to them in that way. It cannot be said that doctors and nurses are unaware of the evils following the habit of drug taking, and yet among these are the greatest number of drug addicts. We have had certain books of which complaints were made presented for his judgment to a magistrate who pronounced them "literature." Such books should be presented to a jury and judged on the principle, "Will reading these books hurt my children?" We should enforce the laws we have at the present time. With regard to the question of criminals, I will admit that many of those who have been caught are low grade morons, but I believe that those who have not been caught are of a high grade of intelligence. I visit prisons myself every year and lecture there and the most intelligent audiences I have, with the exception, of course, of medico-legal audiences in New York, are the prisoners. They catch every point and are fully responsive.

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Whatever the mode of treatment, the results in this condition are rarely brilliant, and if the lesion has been extensive, it is often a question whether the large pale pink or white surface is a great improvement on the original more vivid one. Often enough, too, no impression is made upon the lesion by any method of treatment.

Very small nevi are better treated with the high frequency spark, and angiomatous nevi are better treated with radium than with snow. But there are, after all, selected cases in which snow is indicated. It is rather difficult to define these, for the decision often rests on intangible factors depending upon experience more than anything else. When pain is to be avoided, as in children or timid adults, radium is to be chosen. In nevi of the eyelids radium again is to be preferred, and this also is true in all cases in which anatomical considerations render the use of snow impracticable. If the lesions bleed easily the choice rests rather with the actual cautery fearlessly applied. If a rule can be made regarding the conditions under which snow is to be preferred it would read somewhat as follows: other things being equal, an angiomatous nevus not smaller than a half inch in diameter or larger than one and a quarter inches in diameter, and showing no signs of bleeding, is the type in which treatment with snow is indicated. Such lesions, it is true, are just as well treated with radium, but with the latter entire process is longer as to consummation. It might be added that some people object to the use of radium because of ignorance or superstition regarding its alleged mysterious, baneful properties.

The technique of applying snow has already been described. To cure an angiomatous nevus a half inch in diameter and about a half inch thick requires from one to three applications. A lesion double this size would require from three to eight applications. The intervals between treatments are from two to four weeks. The average number of treatments required are about two applications to every half inch in diameter. This estimate is extremely crude. The prognosis is almost invariably good, the scar being, as stated, flexible and almost the color of normal skin. At times a pigmented zone surrounds the area treated but this usually fades out, however slowly.

In treating extensive port wine marks snow is applied in such a manner that the involved area is cov-